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FIFTY-FIRST YEAR

PAPER TRADE JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY

ESTABLISHED IN 1872

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ANNOUNCEMENT
SEE PAGE 19

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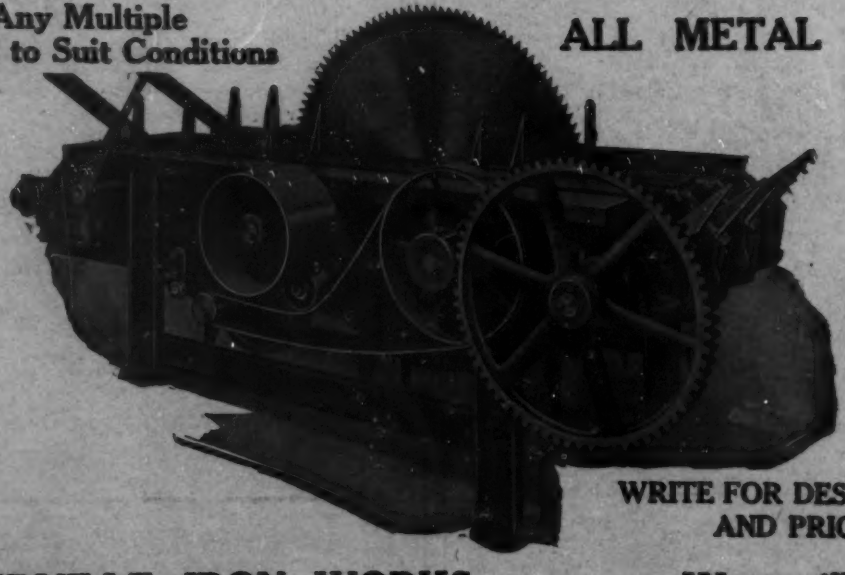
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PAPER TRADE JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY

FIFTY-FIRST YEAR

PUBLISHED EVERY THURSDAY BY THE

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PAPER INDUSTRIES EXHIBIT IN NEW YORK WEEK OF APRIL 9

Show Will Be Held at Grand Central Palace During the Week of the Annual Convention of the American Paper and Pulp Association, Which Organization Has Endorsed the Project—The Exposition Will Visualize the Whole Art of Paper Making from the Initial Operation of Taking Out the Wood in the Forest to the Finished Product as It Reaches the Consumer.

Quite recently when the Executive Committee of the American Paper and Pulp Association decided that the time was propitious for the holding of an exposition of the paper industries, and that it would place its moral support with an organization to conduct it, the corner stone was laid in the foundation for the paper industries exposition which will be conducted at the Grand Central Palace, New York, during the week of April 9, 1923, by the International Exposition Company, with Charles F. Roth and Fred W. Payne as managers. This will be held during the same week as the meeting of the American Paper and Pulp Association, the National Paper Trade Association and other associations of the paper industry which meet at the same period.

To Tell Complete Story of Papermaking

The management whose office is in the Grand Central Palace, New York, has already announced that the diagram of space for the exposition is open and that it is ready to receive applications. The exposition will tell the complete story of paper, starting from the forest. In its scope it will include reforestation of cut over lands to insure a supply of paper raw material for the future, the handling of the raw materials entering into paper and what they are, through the machinery with auxiliary apparatus and instruments with which the finished paper is made and the various products therefrom. Among the latter will be shown the newest products of the papermaker and converter. The exposition will conduct an educational campaign provision being made in its program for the showing of motion pictures of the industry. It is expected to have a program of experts to discuss papermaking phases to schools and colleges, the students from the technical schools being admitted at certain definite periods during the week for the purpose of hearing the speakers and after the address or lecture to view the exhibits.

Though this exposition will be the first of its kind its success is assured by the interest already shown by manufacturers who have asked for space. The success of the project can be further estimated by the successful exhibitions of papermaking machinery, equipment and supplies, which the management of the exposition has already given in the eminently successful expositions of the Chemical Industries which it has conducted for many years and in which for several years it has had a special section for the paper industry. Likewise in that exposition it has had for the past few years a section of containers where fiber boxes, cartons, barrels, bags and numerous other containers of paper have been successfully shown and where exhibitors have found the exposition an excellent business medium.

Committee for the Exposition

A strong committee has been organized for the paper industries exposition comprising organized and unorganized groups of paper manufacturers, the trade publications, educational institutions, engineers and manufacturers of paper machinery, wires, felts, etc.

The committee as at present organized comprises Hugh P. Baker, Secretary American Paper and Pulp Association; H. J. Berger, Editor PAPER TRADE JOURNAL; Chas. N. Bicknell, president National Paper Trade Association; F. D. Cowdery, Albany Felt Company; Joseph L. Fearing, International Paper Company, of Chicago; Hardy S. Ferguson, Paper Mill Engineer, E. B. Fritz, Publisher *Paper Industry*; Phil A Howard, president, *American Paper Merchant;* C. W. Hurtubis, Hammermill Paper Company; Thomas J. Keenan, Editor *Paper;* Ralph H. McKee, Columbia University; John H. O'Connell, president, American Pulp and Paper Mills Superintendents' Association; Frank W. Power, vice-president National Paper Trade Association; L. D. Post, Publisher *Paper Mill;* Walter J. Raybold, president, American Paper and Pulp Association; George W. Sisson, Jr., Racquette River Paper Company; E. C. Spear, The Cheney Bigelow Wire Works; Tom Walden, Editor *U. S. Papermakers;* George E. Williamson, president, Technical Association Pulp and Paper Industry; Louis E. Wise, New York State College of Forestry; Fred. W. Payne and Charles F. Roth, managers.

New Association of U. S. Pulp Mills

On January 1, 1923, an organization known as the U. S. Pulp Producers' Association began operation. This Association is a development from, and takes the place of, the old Pulp Manufacturers' Association. It was organized to meet the needs of the changing conditions in the paper industry, where many of the larger mills are now operating pulp mills as a part of their own plants.

This new Association proposes to continue the statistical work of the Pulp Manufacturers' Association, and to expand its reports to cover not only domestic, but also foreign, production, shipments, exports, etc. An interesting phase of its work will be periodic reports on the pulpwood situation of the United States, prepared in co-operation with the Woodlands Section of the American Paper and Pulp Association.

This announcement of the organization of the new Association of Pulp Producers comes only after most careful consideration by the pulp manufacturers of the United States. The present membership of the new Association will result in weekly and monthly reports based on a very large percentage of the total pulp production of the United States. A feature of its work in connection with these reports will be the preparation of charts showing graphically the production, orders, shipments and imports of the several grades of pulp.

The purposes of the United States Pulp Producers' Association, as outlined by its secretary, O. M. Porter, who is also assistant secretary of the American Paper and Pulp Association and secretary of its Wodlands Section, are as follows:

To distribute to members regularly and promptly all the available statistical data regarding the production and importation of the various grades of wood pulp, and, so far as is possible, pulpwood.

To provide a means for concerted action by pulp manufactures in matters of tariff, taxation, legislation, etc.

To further the uniformity of cost finding methods in the pulp industry.

To increase the effectiveness and economy of pulp production.

The officers of the new organization are:

President—T. W. Ross, Hummel-Ross Fibre Corporation.

Vice-presidents—L. M. Alexander, Nekoosa-Edwards Paper Company; D. C. Everest, Marathon Paper Mills Company; E. W. Kiefer, Port Huron Sulphite and Paper Company; W. H. Savery, Harpers Ferry Paper Company.

Executive Committee—Herman Elsas, Continental Paper and Bag Mills; George W. Sisson, Jr., Racquette River Paper Company; W. H. Sullivan, Bogalusa Paper Company, Inc.

Secretary-treasurer: O. M. Porter.

The development of this Association of Pulp Producers comes as the direct result of the American Paper and Pulp Association's policy, as expressed by its Executive Secretary, D. Hugh P. Baker, of furthering organization among the several branches of the paper industry, in order that the industry as a whole might be in a position to act uniformly and co-operatively in matters of local and national importance to the industry and its several branches.

HOPPER PAPER CO., INC., BUYS MILL OF E-Z OPENER BAG CO.

New Concern Which Is Incorporated in Illinois for $500,000 and Is Owned Almost Exclusively by Kalamazoo Capital, Will Improve the Mill at Taylorville and Will Operate It in the Production of Paper to Be Converted Into Tablets, Envelopes and Papeteries—MacKay Wire Works Organize to Engage in the Manufacture of Fourdrinier Wires—May Hold Cost Convention.

[FROM OUR REGULAR CORRESPONDENT.]

KALAMAZOO, Mich., January 2, 1923.—The Hopper Paper Company, an Illinois corporation, with a capital stock of $500,000 has been organized and has purchased the paper mill built by the E-Z Opener Bag Company, at Taylorville, Ill.

This concern is owned almost exclusively by Kalamazoo capital, among the prominent stockholders being B. Hopper and K. R. Cobine, of the Kalamazoo Stationery Company; S. B. Monroe, of the Allied Paper Mills and Sam Graff, of D. Graff & Sons.

This mill was erected 10 years ago and is in every way a first class concern, both as to buildings and equipment. The paper machine is a 126-inch Black & Clawson Fourdrinier. There are six 1,200 pound beaters and two Jordan engines. All this machinery is being thoroughly overhauled, while the interior of the mill is being finished in white enamel.

Billingham & Cobb, architects and engineers, are superintending the erection of an addition to the plant, which will house the envelope department. This building is 80 by 160 feet in dimensions, two stories. It is of beamless concrete construction, with clear span trusses and steel sash. Eighty per cent of the wall space is glass. All floors are covered with 1¼-inch mastic, thus insuring freedom from dust and dampness. A high class heating and ventilating system has been installed, providing for a change of air in the department every six minutes. The cost will be approximately $100,000.

The capacity of the mill will be about 20 tons a day. Most of the product will be converted into tablets, envelopes and papeteries.

The officers and directors will be: President, B. Hopper; vice-president, Walter M. Provine, Taylorville, Ill.; secretary, treasurer and general manager, K. R. Cobine, who for the past ten years has been vice-president and general sales manager of the Kalamazoo Stationery Company. The other directors are S. J. Monroe and Sam Graff.

To Make Fourdrinier Wires

The Mackay Wire Works, of Kalamazoo, has filed articles of incorporation, with an authorized capital of $25,000, of which amount $6,660 has been paid in.

This new industry will engage in the manufacture of Fourdrinier wires, save-all wires and wires to cover cylinder moulds and will cater especially to the paper industry. The fact that it is the only plant of its kind in Michigan and that the mills in the Kalamazoo valley district expend annually hundreds of thousands of dollars for wire equipment for their machines, makes the concern a very important one.

M. J. Mackay, is president of the new company. He is a practical wire man, having been engaged for years with plants in Massachusetts and Wisconsin. Seeing an opening in Michigan, with Kalamazoo as the logical center for such an industry, he has located here, taking over the old John Den Bleyker homestead on East avenue. The buildings there are in good condition and readily lend themselves to rebuilding and alterations to temporarily house the new industry.

One loom has been installed to date. It is large enough to make the save-all and cylinder wires and wires for small Fourdriniers. It is planned to install a larger loom in the near future.

Associated with Mr. Mackay in this undertaking are Wilfred Strong, vice-president; F. J. Buckley, of the Kalamazoo Foundry and Machine Company, as treasurer and C. B. Mackay, secretary.

For many years it has been a source of general comment among paper mill supply men visiting this city that Kalamazoo should not be the seat of concerns manufacturing mill equipment, surprise often being expressed that such concerns had not been located here. Despite the fact that Kalamazoo holds the record of being the greatest individual producer of paper in America, only three mill equipment plants have gained any permanent footing and catered materially to the paper mill trade. They are: Central Manufacturing Company, screen plates and dandy rolls; Kalamazoo Tank and Silo Company, concrete tanks and stuff chests and the W. A. Lounsbery Company, steel tables and movable trucks.

Consider Cost Convention at Kalamazoo

Kalamazoo local division of the Cost Association of the Paper Industry in serious considering a convention gathering, to be held in this city, sometime the latter part of February. It will be a one day session, with afternoon and evening meetings and invitations will be sent to all cost accountants throughout the middle west to be present.

A similar gathering was held in Kalamazoo last winter and was very successful. An unusually comprehensive and interesting program was offered at that time, several of the best known cost men in the paper industry taking part in the sessions. In addition to the two programs, there will be a banquet, with snappy entertainment features.

Kalamazoo local elected officers at Friday evening's session. They are: President, George Ferguson, Watervleit Paper Company; vice-president, Glen Ingling, Kalamazoo Paper Company; secretary-treasurer, Harry C. Bradford, Rex Paper Company.

Following the dinner, which was served at the Park-American hotel, at 6:30, there were two very interesting addresses. E. E. Vender, assistant manager of Systems in the office of Ernst & Ernst, Detroit, read a paper on "Paper Mill Costs." B. M. Silver, manager of the Kalamazoo office of Ernst & Ernst, spoke on the income tax. Both papers were followed by general discussions, bringing out many interesting additional points.

General Trade News

The Michigan Carton Company, Battle Creek, which was organized in 1907 and is capitalized at $500,000 will be reorganized and re-capitalized. It is proposed to re-incorporate under the laws of Michigan, to issue 50,000 shares of 7 per cent preferred stock to take care of the present capitalization and also to issue 100,000 shares of no par value common stock to take up the $500,000 surplus.

The Watervleit Paper Company, at Christmas time presented each one of its 300 mill employees with a check for five dollars.

May Reorganize Forest Service

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., January 3, 1923.—Secretary of Agriculture Wallace and Walter F. Brown of the Government reorganization committee conferred with President Harding the latter part of last week regarding the placement of the Forest Service in the reorganization. It is understood that no decision was reached and a disposition of the Forest Service will be discussed at a meeting to be held in the near future.

Overlapping of work by government departments is said to be also causing concern to the men who are trying to work out the President's reorganization plan. Mr. Brown said he did not know when the plan will be in shape to present it to the joint Congressional committee.

CANADIAN ASSOCIATION TO CELEBRATE DECENNIAL

Speakers of Unusual Prominence and Other Arrangements Made With Special Significance to the Annual Meeting of the Canadian Pulp and Paper Association to Be Held at the Ritz-Carlton at Montreal, January 24-26—Unusually Interesting Programs Also Arranged for Meetings of the Technical and Woodlands Sections of the Association—Present Officers of the Association.

[FROM OUR REGULAR CORRESPONDENT.]

MONTREAL, Que., January 2, 1923.—The Canadian Pulp and Paper Association will celebrate its decennial anniversary the coming year and the tenth annual meeting to be held in Montreal on January 24, 25 and 26 is being arranged with a view to giving special significance to the event.

The annual meeting of the association proper will be held at the Ritz-Carlton Hotel on Friday morning, January 26. Among the more important matters to be dealt with will be that of making provision for the appointment of a director of Technical Research and a director of Forestry Research to direct the work of the Association in those two branches. The educational work of the association has been broadened out during the year by the establishment of a correspondence school of papermaking and by the issuance of another of the series of text-books of the industry fathered by the association and steps will be taken to extend and perfect these undertakings.

Prominent Speakers Arranged For

The business meeting will be followed by a luncheon at which Sir Edmund Walker, president of the Canadian Bank of Commerce, and S. E. Thomason, vice-president of the American Newspaper Publishers' Association and general manager of the Chicago *Tribune*, will be the guests of honor. Sir Edmund Walker is expected to give a general review of world-wide business conditions with especial reference to their Canadian application, while Mr. Thomason is to talk about the interdependence of the newspaper publisher and the paper manufacturer. In addition to being a newspaper publisher himself Mr. Thomason is a director of the Ontario Paper Company, Limited, which operates a large paper mill at Thorold, Ont., and also has extensive interests in Quebec province.

In the evening the annual dinner will be held at the Ritz-Carlton. Prof. Stephen Leacock of McGill University will be the principal speaker. The program will comprise a number of unusual features.

Wednesday and Thursday will be occupied by meetings of the Technical and Woodlands Sections, for which special programs have been arranged.

Technical Section Program

Among the subjects which the Technical Section will discuss and the experts who will lead in the discussions are, "The Functions of Press Felts," by E. A. Rees, director of Research for F. C. Huyck & Sons, Albany, N. Y.; "Stock Saving With and Without Save-Alls," by E. J. Trimbey, Trimbey Machine Works, Glens Falls, N. Y.; "Printing Ink and Its Relation to Paper Manufacturing," by B. G. Ransom of the Ault & Wiborg Company of Canada; "The Properties of Wood in Paper-Making," by Dr. Bjarne Johnsen of the Hammermill Paper Company, Erie, Pa.; "The Utilization of Steam in a Modern News Print Mill," by Surrey W. Slater and J. E. Warner of the St. Maurice Paper Company and "Recent Experiments in Pulp Testing" by E. P. Cameron, Chief of the Paper Division of the Forest Products Laboratories of Canada.

Woodlands Section Program

The Woodlands Section has an equally well-filled program, the principal features of which will be a discussion on "Progress of Research Work in Forestry in Canada" led by Ellwood Wilson, chief forester of the Laurentide Company, Limited; "Progress in Cost Accounting for Logging Operations," by W. A. Ware, cost accountant for the News Print Service Bureaus; and "Limitations on the Utilization of Wood in the Manufacture of Pulp," led by Dr. J. S. Bates of the Bathurst Company, Limited.

Joint Luncheon for Two Sections

A joint luncheon for the two sections has been arranged for Thursday at which motion pictures showing improved tractor operations in the woods will be shown and a demonstration will be given of the uses of radiphones in fire patrol work, as well as a number of other features.

Officers of the Association

The present executives of the Association are George M. McKee, president; H. F. E. Kent, vice-president, and Edward Beck, secretary. O. F. Bryant, of the Laurentide Company, Limited, is chairman of the Technical Section; Robert P. Kernan, of the Donnacona Company, Limited, chairman of the Woodlands Section; Col. C. H. L. Jones of the Spanish River Pulp and Paper Mills, Limited, chairman of the Committee on Technical Research, and George Carruthers of the Interlake Tissue Mills, chairman of the Committee on Vocational Education.

News Print Service Bureau to Meet

The News Print Service Bureau with headquarters in New York, comprising nearly all the news print manufacturers of the United States and Canada will hold its annual meeting at the Ritz-Carlton on Friday afternoon, January 26, and will bring to Montreal a large number of members of the industry from the United States. C. A. Babcock is president of the bureau and R. S. Kellogg, secretary.

Weights and Measures Law

Wm. P. Ridgeway, assistant secretary of the Paper Association of New York, has sent the following announcement to members:

The State Department of Weights and Measures has notified the Association that it proposes to enforce the law relative to marking the net contents of containers on the outside of each package as the same law applies to rolls of paper, and especially to rolls of wrapping paper:

The law in question is as follows:

"When commodities are sold or offered for sale in containers whose sizes are not otherwise provided by statute, the net quantity of the contents of each container shall be plainly and conspicuously marked, branded or otherwise indicated on the outside or top thereof, or on a label or a tag attached thereto in terms of weight, measure or numerical count; provided, however, that reasonable variations shall be permitted."

Applying the law strictly, there should be an allowance made for the wrapper on roll paper and the net weight only marked on the package, but we are of the opinion that the use of the gross weight, but without designating it as such, where the wrappers are not an important part of the weight, would be a compliance with the law as coming within a "reasonable variation."

It will, however, be necessary to weigh and mark on the outside of each roll of paper the gross weight thereof, but it should be designated as net weight. This marking may be done with pencil, stencil, or otherwise.

E. P. Lowe Removing to California

FITCHBURG, Mass., January 2, 1923.—E. P. Lowe, of the Falulah Paper Company is removing to California where he will go into the oil business, having purchased oil producing properties in Ventura county. Mr. Lowe will also be interested in other kinds of business regarding which he is not ready to make an announcement as yet.

Announcement

The Board of Directors and Officers of

A. J. Pagel & Co., Inc.

announce that on January 1, 1923

the name of the company will be changed to

Pagel, Horton & Co., Inc.

The Directors, Stockholders and foreign and domestic affiliations will remain as heretofore

347 Madison Avenue,
New York City

TRADE HOLDS UP WELL OVER YEAR END IN PHILADELPHIA

While No Rush Business Is Done, Demand Is More Active Than Usual at This Season—Representative Concern Makes Advance of One-quarter Cent on Kraft, Which Is Considered the Precursor of Other Advances That Will Be Announced After the New Year—Paper Manufactories Co. Erecting New Warehouse To Cost $500,000—S. Walter, Inc., Will Increase Facilities.

[FROM OUR REGULAR CORRESPONDENT.]

PHILADELPHIA, January 2, 1923.—The staying power of business in all branches of the paper trade, are the outstanding features of the between holiday week which, according to all precedent should have been a dull one, but which this year was nothing of the sort. It is true that no rushing business was done, but it stood up well against the background of memories of what for decades past has been the experience of the trade between the Christmas tide and the new year. In trade opinion, the important development of this period was the announcement which came early in the week from the Hollingsworth & Whitney Company of a quarter cent advance on the large lines of coarse papers in the manufacture of which this firm stands forth conspicuously. This advance, while it came as an isolated announcement, is regarded by the trade generally merely as precursor of others to come probably this week and if not almost certainly next week.

Wherever one comes into contact with the paper distributors, be they specializing in the fine or the wrapping business, one finds the same atmosphere of complete satisfaction with what the entire year brought to them, of jubilation over the developments since Labor Day particularly and of unlimited confidence in what the new year may have in store. Almost a consensus of opinion runs throught the expressions of forecasts made by representatives of the several branches of the trade. No one looks for a boom business and no one wants it; all look for a steady continuance and steady increase of a sound, wholesome and conservative business for at least the first half of the new year with the probabilities for the latter half of the same sort of trading and the increased volume. Few look for very large increases in prices but all are convinced that the trend is upward and that for some rising prices will continue until a maximum slightly in advance of ruling rates is reached.

For the paper and rag stock trade, the holiday week never has been a lively one and this year was no exception. Mill demand was quiet, but there was no accumulation of stock and therefore no weakening of prices had to be suffered in an effort to force goods millwards from congested warehouses. Prices held firm to steady for all grades of stock, with manila container perhaps the strongest in the common paper lines and there were no quotable changes. Dealers are of opinion that present prices will hold for some time and that a change is more likely to be upward than downward.

A New $500,000 Paper Warehouse

The new home of the Paper Manufacturers' Company on the actual construction of which progress is now being made, after much work was done in clearing the big site of a number of small dwellings, will be prosecuted with all dispatch throughout the new year, but it is of such magnitude that even under these circumstances the firm does not expect to enter into occupancy of it before the end of July. It will represent an investment of approximately $500,000 and is designed to embody the last word in construction for the use of a paper storage, paper converting and executive office building. All its six stories and basement, each containing approximately 20,000 square feet of space will be utilized exclusively by the Paper Manufacturers Company. It occupies the site at the southwest corner of Fifth and Willow streets running along Fifth street southward 126 feet towards Callowhill street and then back on Willow street 183 feet to Randolph street and thus will have four street fronts, Fifth, Callowhill, Willow and Randolph. Fifth street has become one of the main arteries of north and south travel east of Broad street. Callowhill street is next to Market street, the widest in the heart of the city and on Willow street are the tracks of the P. & R. Railway, connecting with the Belt Line operated jointly by the P. & R. and Pennsylvania Railroads and all others and thus giving to the new building exceptional shipping facilities. A siding runs directly from Willow street into the new warehouse accommodating three freight cars with abundant room to spare. On the Callowhill street front there will be a modern garage for the accommodation of the firm's fleet of trucks. In the center of the building, banked, are two five-ton elevators and throughout the building there will be installed the Shepherd lift and travelling hoists similar to those used in the Curtis Publishing Company. These facilities will enable the company to load and unload simultaneously three freight cars under

NEW BUILDING OF PAPER MANUFACTORIES COMPANY

cover, and through the elevators and travelling hoists, to have virtually a duplicate system for carying stock to the upper floors and for delivering it with facility to any part of the structure. Since the floors are to be built to sustain a load of 250 pounds per square foot, the capacity of the new building really will be immense. Structurally it will be principally of concrete with tapestry brick trimmings, abundantly illumined by windows, save where blank walls particularly have been provided for the best storage of paper. The executive offices will be on the Fifth street side at Willow; the remainder of the first floor will be used for shipping and delivery; the second and third floors will be given over to the manufacturing department for the production of small roll products, such as adding machine, cash register, die wiping, ticker tape, telautograph, cable recording tape, clock roll, mailing papers, blasting papers, cartridge papers, toilets and all manner of small roll specialties. In the new structure a full line of fine printing papers will be added to the coarse stock always previously carried by the company.

The business of the organization was begun in 1905 when articles

(*Continued on page 22*)

Clean Water—
Clean Paper
Whether you draw your water from the clear streams of the Northern woods or the murkish rivers of more civilized localities, it will contain leaves, grass, sawdust, bark, etc.
It will pay you to filter the water when it enters your mill with a Bird Water Filter. Its use results in fewer specks in the paper, longer service from wires and less trouble with machinery. It can be used independently or ahead of sand filters.
BIRD MACHINE COMPANY
South Walpole, Massachusetts
Western Representative:
T. H. Savery, Jr., 1718 Republic Bldg., Chicago, Ill.
Canadian Builders of Bird Machinery
Canadian Ingersoll-Rand Co., Ltd.
260 St. James Street
Montreal, Canada.
4841
BIRD WATER FILTER

TRADE HOLDS UP WELL OVER YEAR END IN PHILADELPHIA

(*Continued from page 20*)

of incorporation were secured on part of the first floor of 523 Ludlow street. After a year, larger quarters were necessitated and these were found at Fifth and Commerce streets and successive expansions took place leading up ten years ago to the purchase of the property now occupied, 526-28 Cherry street, whose total floor area on eight stories and a basement is only equal to the two floors of the new structure. Officials of the company are, S. A. O'Neil, president; J. A. O'Neil, vice-president; N. M. Glynn, treasurer, and F. W. Coar, secretary.

S. Walter, Inc., to Expand

Early in the new year, too, expansion will take place in the plant of S. Walter, Inc., which though but recently removed into its own building at 144-146 North Fifth street, which gave it many times the space of its old Cherry street location, found even these increased facilities insufficient and to provide for necessary expansion, just has taken title to the adjoining building at 142 North Fifth street and thereby will provide for three front entrances, larger warehouse facilities and shipping arrangements. The latest purchase is a three story building still under lease, upon the expiration of which the entire building will be made a part of the present warehouse and will be entirely rebuilt so as to conform structurally with the modern entrances and store fronts of the present home. For the time being, however, the Walter Company has made arrangements to use the rear of the first floor of its new purchase as a warehouse and shipping room. The combined buildings will rank in the forefront for size, accessibility of location and facilities for shipping, of the exclusively coarse paper distributing establishment in the central section of the city. Early this month the sales organization will be increased and additional mill connections will be made. An additional two and a half ton White truck has been added to the delivery service. Foundation of the present business was laid by Simon Walter, who for a decade or more has been a member of city council back in 1908 and was incorporated in 1918 under Pennsylvania law. Officials of the company are, Simon Walter, president; Thomas F. Kennedy, vice-president; Harry Lefkowith, treasurer and manager and Valentine L. Wilson, secretary. The first place of business was at Water and Walnut streets, successive removals as expansion was required being to 116 No. Third street, then to the store property which it occupied previous to its removal to its old home at 321-323 Cherry street.

Enterprise Co. to Incorporate

The good news of an incorporation this year and the expansion of business by the broadening of present representation and the addition of new lines was made possible on Friday night last when the business family of the Enterprise Paper Company, Third and Callowhill streets sat down to banquet in the Ivory Room of the Adelphia with almost a quarter hundred present made up of the sales force and their wives and the executives of the organization. The event also marked the fourteenth anniversary of the organization and the establishment of an annual business family reunion, this being the first of the series. Sales manager A. B. Kehr acted as toastmaster. Addresses were made by Nathan D. Isen, proprietor of the establishment and its general manager, who made the announcement of the early incorporation of this firm and the inclusion in its corporate body as officers of some of the present executives in the sales and accounting room department. A charter will be applied for some time this month. The Enterprise Company organized back in 1909 at 2844 Germantown avenue with Isen, proprietor, general manager delivery service and the whole works. In 1918 it moved into its present location, a six story building and today as a result of expansion has a sales force of eleven men with Mr. Isen as buyer and general manager. In 1921 the firm took over the interests of the Star Bag & Paper Co. of Bethlehem, Pa., which failed and which was acquired by the Enterprise Company at the request of the other creditors to protect the interests of all. The Bethlehem concern has at its head manager E. B. Meitzler, with J. Neilans, office manager, and a sales force of four men who travel through the Pennsylvania State territory contiguous to that city. At present the firm distributes special lines of bags, fibers, news and other mill specialties, but under the new organization there will be introduced during the next year a line of high grade krafts and other coarse papers for large order trade. David Back, city division manager for Philadelphia sales on behalf of the employees presented to Mr. Isen at the banquet a gold watch, artistically engraved with a sentiment of loyalty of the employees. Closing the banquet, vaudeville talent and dancing were enjoyed. Joseph Kaplan was one of the guests of honor of the evening as representative of the S. Goldberg Company which who operates a chain of ladies' clothing and furnishing stores.

Paper District to be Saved

Considerable concern which was aroused in the Philadelphia paper trade whose main artery is 6th street, was allayed during the week when the Mayor of the city in a message to Council advised that Seventh street instead of Sixth street be chosen as one of the thoroughfares in a $20,000,000 street widening project incident to the construction of the Delaware River Bridge spanning the stream from Philadelphia to Camden. Had the original plan gone through it would have transformed the Philadelphia paper distributing world and would most directly have effected the J. L. N. Smyth Company, the Molten Paper Company, the D. L. Ward Company, The Garrett Buchanan Company, The Quaker City Paper Company, Riegel & Company, Dill & Collins, The Penn Card and Paper Company, The Bridge Paper Company, The American Type Founders Company, Edward Stern & Co., and several book binding and small printing establishments.

Honor for S. S. Garret

There came during the week to Sylvester S. Garret, 3rd and Spruce streets, the honor of being chosen a member of the International Chamber of Commerce which holds its next session in Rome, Italy, in summer and which he is planning to attend. Election followed the attendance of Mr. Garret on invitation of President Earnest L. Trigg of the Philadelphia Chamber of Commerce to a recent luncheon at the Union League which was addressed by Chairman Bedford of the Board of Directors of the Standard Oil Company and a vice-president of the International Body.

Garrett Mills Grow

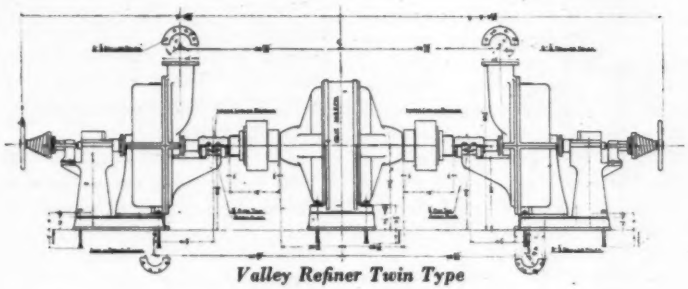
Productive capacity has been increased almost one-half in the plant of the Edwin T. Garrett Company of Lansdowne, near Philadelphia, and known for more than half a century as The Darby Paper Mills through the recent installation of electric drives throughout. The mills product a high grade of tissue under the direction of Harvey Garrett, son of the founder, Edwin T. Garrett.

Edwin Garrett & Son, Chester, Pa., proprietors of the paper mill at Granogue, Del., founded almost a hundred years ago and operated for many years by Francis Tempest have just completed construction of a concrete dam and have made extensive improvements including the installation of new beaters to enable it to produce a larger amount and a higher standard of rope manila tissues.

Farr & Co. to Incorporate

Application will be made to the Governor of Pennsylvania on January 8 by Edgbart H. Farr, Charles Swanson and Cora L. Dalby for a charter for an intended corporation to be called Edgbart H. Farr and Company to deal in waste material and articles of a cognate character.

Turning Grinder Rejects Into Dollars



Valley Refiner Twin Type

That is the function of the Valley Refiner. The machine is built in Single and Twin types with capacities of 3½ and 7 tons of groundwood pulp daily respectively. Not only does the Valley Refiner eliminate waste, but it turns the waste into a profitable product. The savings effected will pay for the machine in ninety days.

We will gladly furnish full details upon request.

VALLEY IRON WORKS COMPANY

Plant: APPLETON, WIS.

New York Office: 350 Madison Avenue

MORE INQUIRIES FOR PAPER ARE REPORTED IN CHICAGO

With the Increase in Demand That Is Confidently Expected, Speculation Is Being Indulged in Regarding the Possibilities of a General Advance in Prices—Big Demand for Old Paper Stock Is Being Experienced—Butler Paper Corp. Buys Property at 211-219 West Monroe Street for $350,000—Wax Paper Manufacturers to Meet at Congress Hotel, January 11-12.

[FROM OUR REGULAR CORRESPONDENT.]

CHICAGO, December 30, 1922.—The usual seasonal quietness pervades the Chicago paper market. The Christmas rush in wrapping paper and paper boxes is over and inventory taking has commenced. Speculation as to what the new year has in store for paper consumers in this market is rife among printers and other large users. Inquiries are reported to be rather numerous and the knowledge of this fact has given rise to a rumor that with an increased demand after the first of the year, general advances can be expected. When questioned whether in their opinion the new year would bring with it an advance in prices, manufacturers and wholesalers would not commit themselves. One wholesaler, who is a close student of market conditions, answered by saying: "The law of supply and demand will undoubtedly hold good. If the demand is good and the general market has a bullish atmosphere, prices are bound to advance."

In reviewing the year just drawing to a close, everyone questioned seems well pleased with results. Starting out a little slow last January, the year has shown healthy improvement right along and finished for the season a few weeks ago in fine condition. The year got away to a slow start in January and showed no improvement in February. Both months were poor for the paper manufacturer and wholesaler. March showed signs of life, and with some firms the month produced some real activity. Continuing throughout the spring and summer business was good. In late summer, the general advance in prices seemed to add impetus to the demand. From that time forward, conditions have been very good, with the exception of the past month. The seasonal drop in demand came rather early in this market, the month of December showing a lull, from which a recovery is not expected until after inventories have been taken.

Prices in the Chicago paper market remain unchanged and are firm.

The Paper Stock Market

There is a big demand for old paper stock in this market. The mills are reported to be crowding the old paper dealers, who in turn are getting after the peddlers. A severe shortage exists and while quotations have not changed in the past week, it is believed that immediately after the New Year holiday, prices offered will go even higher than those announced last week and appearing in this week's Chicago quotations on another page.

Paper stock companies report that the year 1922, as far as their business is concern, can be described with all of the adjectives ordinarily used in speaking of the various conditions of business. These words follow in chronological order, starting with the first of the year and are: Poor, fair, good, fine.

January witnessed a dead market. Demand was poor and prices were correspondingly low. Life was given to the market through increased demand in July and hope rose in the breasts of regular paper stock dealers and peddlers, so much so that charges of hoarding stocks in anticipation of higher prices were made. During the late summer the mill demand increased considerably and the paper stock men experienced a small boom, which, lasted until the first week of November. Conditions were then quiet up until a week ago. The demand is now good, with brighter prospects for the new year.

Firms Report Good Year

Kirchheimer Brothers Company, manufacturer and wholesaler of coarse papers, including wrapping papers, bags, tissues, etc., have had a good year, according to Vice-president Max Kirchheimer. He stated that business took on an added spurt in September and been fine ever since. He is looking for a good year in 1923.

C. J. Foley, of the C. J. Foley Paper Company, wholesaler of book and other papers and paper specialties, states that with the exception of a few bad months early in the year, 1922 has proven a good year. He bases his opinion that 1923 is going to be a banner year on the fact that every indication points to an exceptionally busy year for all lines of industry.

Watching Export Conditions

Manufacturers and wholesalers of wrapping papers and package material, such as boxes, cartons and bags are watching with eager interest the development of conditions abroad. It is generally believed that if export conditions are settled, this branch of the paper industry should experience a bigger and better business than for some time past.

Butler Paper Co. Adds to Holdings

The Butler Paper Corporations of Chicago has just bought from John R. McKay the property at 211-219 West Monroe street, adjoining its present location at a price of $350,000. The lot measures 80 by 198 feet. Not considering the five-story building of any value, the purchase, made on December 29, was at the rate of $4,375 a front foot. With its former holdings, the Butler corporations now has a frontage of 220 feet on Monroe street and 198 feet on Franklin street. When present leases on floors of the recently acquired property expire, the Butler interests will occupy the building. Frederick T. Hoyt negotiated the sale.

In 1920 Mr. Hoyt sold to the Butlers the southeast corner of Monroe and Franklin streets, 50 by 80 feet, for $375,000. For more than twenty-five years it has owned and occupied the property in between the two mentioned. It now owns the entire north frontage on Monroe street, from Franklin to within ninety-five feet of Wells street.

Advertising Belfast Bond

Right in the heart of the printing district, on the wall of the Peterson Building, which houses the plants of the Peterson Linotype Company, the Regan Printing Company and the Steere Bindery, appears a new and attractively painted sign of the Berkshire Company, advertising "Belfast" Bond for writing and printing paper. The advertisement has a back-ground of black, with a green strip, indicating a ribbon running diagonally through the ad from the lower left to the upper right hand corners. On this ribbon is a red seal, with white lettering reading "Belfast Bond for Letter Heads."

Wax Paper Makers to Meet

The Wax Paper Manufacturers' Association will meet in convention at the Congress Hotel, Chicago, on Thursday and Friday, January 11 and 12.

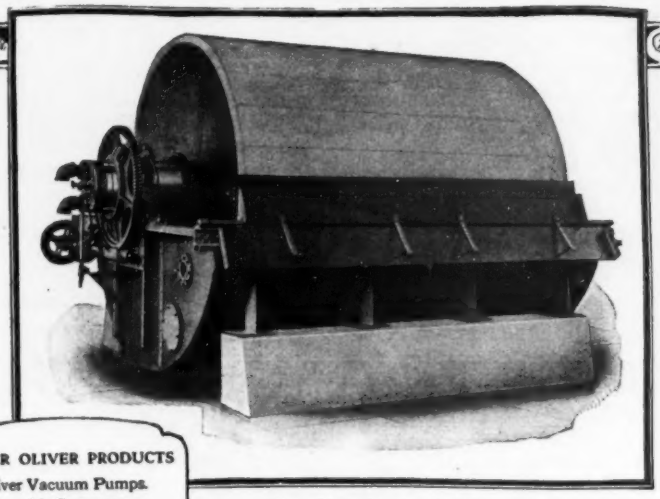
W. P. McNulty Joins Ranks of Benedicts

W. P. McNulty, president of the McNulty Paper and Twine Co., this city, will be married this evening.

To Prevent Discrimination in Prices

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., January 2, 1923.—Representative Merritt of Connecticut has introduced a bill in the House "to prevent discrimination in prices, to provide for publicity of prices, and to protect good-will." The bill, which has been referred to the Committee on Interstate and Foreign Commerce, provides, among other things, for the marking on each salable unit of the product or container the price at which "such unit shall be re-sold."



Lime Mud Filter with Repulper

OTHER OLIVER PRODUCTS
Oliver Vacuum Pumps.
Oliver Air Compressors.
Oliver Centrifugal Pumps.
Oliver Worm Gear Speed Reducers.
Olivite Acid-Proof Centrifugal Pumps.

Why the OLIVER is supplanting Diffusers in the washroom

Oliver Filters wash sulphate pulp direct from the digesters by displacement of the cook-liquor instead of by diffusion.

As the filter drum revolves weak liquor is applied first to the thin cake of pulp displacing the strong liquor. This weak liquor is then displaced by hot wash water. The strong and weak solutions are automatically segregated and the clean cake is delivered in a non-variable condition and at a uniform rate.

All operations are in plain view and thus easily regulated. The automatic operation of the filter makes constant attention unnecessary. Sulphate pulp leaving the filter averages only 30 pounds of soda per ton bone dry basis and since no liquor is discarded during the process, this constitutes the only wastage that can be charged to the washroom when Olivers are employed.

The following economies as compared to diffusers soon pay the entire cost of the installation of Olivers.

1. **Wash room labor is decreased 60%.**
2. **Soda losses are decreased 75%.**
3. **Pulp losses are entirely eliminated.**
4. **Floor space is reduced 75%.**
5. **Pulp is washed with ⅓ less wash water.**
6. **Black liquor returned to the digesters with ⅓ less dilution.**
7. **Accurate pulp samples readily obtainable.**

We will be glad to aid you in solving your wash-room problems without obligation of any kind.

Oliver *Continuous* Filter Co.

San Francisco
503 Market St.

New York
33 W. 42nd St.

London
11-13 Southampton Row, W. C.

PROSPECTS REGARDED BRIGHT IN TORONTO PAPER MARKET

While No Boom Is Expected This Year, It Is Thought That Business Will Be Conducted on a Normal Basis—While Prices as Regards Most Lines Are Slightly Lower Than They Were at the Beginning of 1922, They Show a Strong Tendency to Advance—News Print Especially Continues in Strong Demand—Provincial Mills to Start New Book Mill in February.

[FROM OUR REGULAR CORRESPONDENT.]

TORONTO, Ont., January 2, 1923.—The paper trade is off to a good start for 1923 if prospects can be regarded as a guide. There is a much better feeling than existed a year ago, when the outlook was uncertain and the industry was emerging from a year of general depression and a period of deflation. The first six months of 1922 was largely a time of recovery but the last half of the year showed a different turn and orders came in more freely and mills began to run on full output. The volume of business done by jobbers during the twelve months just closed has been considerably ahead of the previous period and prices are now fairly well stabilized while production and consumption have, in a large measure, been equalized. One satisfactory aspect of affairs is that not a single member of the Canadian Paper Trade Association made an assignment which demonstrates that the merchants preserved a cool head and took the situation calmly and sanely. In other lines of commercial activities there were numerous failures.

The association work bore fruit and the cordial relations between mills and paper dealers helped to steady matters and bring about readjustment and stability. During the past year there were several fluctuations in prices, with considerable reductions in nearly every line during the first few months. In the closing months there have been not a few increases, in accord with the growing feeling of confidence and faith in the future. While no one is looking for a boom in the business during 1923, it is believed there will be normal demand. Prices on the whole are now a little lower than they were at the beginning of 1922 with the exception of wrappings which, outside of kraft, are a little higher. There is a strong tendency for some lines of paper to advance. Ground wood pulp is scarce and higher in value owing to low water in all the streams and quotations have advanced considerably during the past few weeks. Many plants are unable to operate beyond a small portion of their output owing to lack of power.

News print continues very strong and all the mills have experienced no difficulty in securing the advance of five dollars per ton on their production for the coming year. It is said that publishers, anticipating a rise in book papers, have also placed orders for heavy consignments for the coming three months. Things generally in the paper business are now on a better footing than at any previous period in the past eighteen months and the trade as a unit is quite optimistic and, in some circles, enthusiastic.

Board Business is Promising

The prospects for good business in the board line are bright for the coming year and the prices, which have prevailed for the past few weeks, have been guaranteed until the end of the present month. Paper box plants report that they expect trade to pick up considerably owing to the increasing uses of cartons and receptacles of all kinds.

The New Units at Port Arthur

It is expected that the new book paper mill of the Provincial Paper Mills, Limited, at Port Arthur, will be in operation early in February. The machine, which was supplied and built by the Dominion Engineering Company of Montreal, is 146 inches wide and will trim 136 inches and will have a productive capacity of twenty-five to forty tons a day of book, bond, sulphite and other lines of special papers, catering particularly to the western Canada market. L. F. Knickerbocker, formerly with the Kimberly-Clark Company, Niagara, Wis., is the superintendent of the plant. The sulphite mill of the Provincial Paper Mills, Limited, at Port Arthur, which has been making both bleached and unbleached pulp for some years, will henceforth produce only the bleached product, at the rate of about fifty-five tons a day. In connection with the new book paper mill there has been built a ground wood plant which will turn out about fifteen tons daily.

Mr. Weldon Receives Congratulations

T. A. Weldon, of Thorold, Ont., who is vice-president of the Provincial Paper Mills, Limited, and was for a quarter of a century manager of the E. B. Eddy Company's branch in Toronto, this week celebrated his sixty-ninth birthday and received the congratulations of scores of friends in the trade. He is spending a few days with his father, James Weldon, at St. Thomas, Ont., who is over one hundred years of age. The members of the Weldon family have long been noted for their longevity.

Will Sell Another Pulpwood Limit

The Ontario Government through the Department of Lands and Forests is asking for bids, on another pulpwood limit in the district of Thunder Bay, Ont., in the vicinity of James station on the Canadian National Railway. The sale will take place on the eighteenth of the present month.

Notes and Jottings of the Industry

P. L. Colbert, vice-president of the Valleyfield Coated Paper Mills, of Valleyfield, Que., and Archie Reid, secretary of the company, spent the holidays with relatives and friends in Toronto and other points. Another vacation visitor to Toronto was Arthur Jewett, of the Montreal sales staff of the Provincial Paper Mills, Limited.

The Canadian Paper Board Company has closed down its mill at Frankford, Ont., for a few days in order to install new beaters, pumps, screens and other equipment. A new rewinder is being placed on the machine, which, with other alterations, will improve the quality of the patent, coated board turned out, the felt marks being eliminated.

R. J. Flynn, sales manager of the Buntin, Reid Company, wholesale paper dealers, Toronto, who has been Mayor of the town of Weston, Ont., for the past two years, was re-elected to that position for another term by acclamation last week.

At a recent meeting of the Book and Writing Section of the Canadian Pulp and Paper Association, a resolution of sympathy was passed in reference to the death of Alex Buntin, of Toronto, who was highly esteemed for his character, ability and integrity and a copy was ordered to be sent to Mrs. Buntin and family. The Canadian Paper Trade Association at a recent session, also passed a similar resolution, paying a tribute to the memory and worth of the deceased.

C. J. Bastedo, of San Francisco, Cal., general sales manager of the Paraffine Companies, Inc., board and paper division, was a recent caller upon the paper trade in Toronto.

Joseph Kilgour, of Kilgour Brothers, Toronto, manufacturers of paper bags, boxes, etc., and Mrs. Kilgour, left recently for the southern states where they will spend several weeks.

Word has been received in Toronto of the marriage of James F. Donly, manager of the Canada Paper Company for the Maritime provinces, to Miss Catherine Agnes Mountain, the ceremony taking place in St. Andrew's Church at Windsor Mills, Que.

The wholesale paper dealers of Toronto have been busy during the past week in taking inventories and in staff reunions. Representatives from other portions of the Dominion who have been in attendance, all report that trade prospects are bright for the coming year.

Off To A Flying Start For 1923

The best is none too good for your purposes. So take no chances—use the time-tried, reliable, economical

LAWRENCE GROCERS' BAGS

Our Kraft Bags are made out of the highest quality, No. 1 Pure Sulphate Kraft Paper.

Our White Bags are made out of the highest quality Slow-Cooked Mitscherlich Spruce Sulphite Paper.

James Lawrence, President

The Lawrence Bag Company

Miamisburg, Ohio

BUDGETING CONTROLLABLE EXPENSE AND COST FACTORS*

By E. E. Vender, Ernst & Ernst, System Staff, Detroit.

Perhaps the most talked of, if not the most important, subject of the hour for executives and accountants, is the matter of expense control and the reduction of waste. The fact that this has not been accomplished generally, is indicated at present by the large number of bankruptcies, reorganizations and consolidations. It was estimated before the war that, of three hundred thousand manufacturing concerns in the United States, *one-third* earned no profit above normal interest on their investment and *ninety per cent* did not know what it cost to produce their products. Since selling price in competitive lines is largely determined by market conditions, the balance of supply and demand, the successful business is the one that keeps its costs to the minimum through the elimination of waste. The control and reduction of unnecessary expense and waste *is* the creation of profit.

Must Fix Selling Price on Predetermined Costs

It is necessary for most manufacturers to fix their selling prices on a basis of predetermined costs. This can best be accomplished through budgeting controllable expense and cost factors. At no time in the history of American industry has there been such need of the business budget as at present. It is the only dependable safeguard against over expansion, over production and over expenditure. It is the method by means of which the successful executive of today plans his work and works his plan. The same reasoning that determines the budget plan for control of the finances and operations of a city or state should be applied to every business, large or small.

Where *ordinary* cost departments merely follow up operations with cost detail and record *history*, the average executive finds that by the time cost statements are rendered he is facing new problems—changed markets, changed business conditions and often new contracts to be quoted on that vary from those of the past.

Cost accountants who merely record history are passing up an opportunity for great recognition in business.

Perhaps the reason that executives so often regard cost accountants as "overhead,"—and cost accountants in turn believe that their importance and value to the business is underestimated, is that they do not get each other's point of view. The executive must necessarily be thinking in terms of the *future* and it is hard to interest him in what is past, while the cost accountant must necessarily record the history of operations.

The cost accountant of today who would win recognition and assume larger duties and responsibilities of management is frequently known also as the Budget officer.

To successfully create and operate a budget it is essential that expenses be departmentalized and that costs are properly co-ordinated with the general accounting, or as usually termed "tied-in" costs. The individuals responsible for the spending of money—the president, advertising manager, sales manager, office manager, and all of the heads of departments and foremen in the factory, are then called upon to prepare a complete predetermined expense estimate or budget for the ensuing period. The original budget setup should be checked in the office against past performance, and it will be found from time to time that the original budget needs revision—*downward*—as foremen pay more attention to economy in their controllable expense factors.

Main Controllable Expense Factors

The main controllable expense factors in the factory are, labor, tools, supplies, maintenance and scrap losses.

Factory expenses will vary according to the degree of capacity of operations, so it will thus be necessary to establish units of production upon which to base budget estimates. Predetermined costs may then be arrived at by adding:

1, Material; 2, Conversion Costs. a, Fixed Charges; b, Variable Expenses (Budgeted Items).

The cost accountant can then present to the management a predetermined cost statement indicating, on a sliding scale of production, the costs and consequently the profit or loss and give him a basis on which to contract business, knowing in advance what the results are to be—dependent on the volume of business.

Should Cover Shortest Possible Period

Under the budget plan every individual responsible for the control of expense has committeed himself as to what his various expenses *should be* and it thus becomes the duty of the budget officer to call the attention of each to items of excess. The budget on factory departments should cover the shortest possible period—the week is preferable to the monthly period—and weekly statements of actual performance contrasted with the budget, submitted to the foreman and factory superintendent. This gives the foreman an opportunity, if exceeding his budget, to pay special attention to expense items not under control, and perhaps recover on early excesses before the monthly period is past. It also has a psychological effect, through keeping before the foreman the fact that every controllable item of expense is observed.

Elaborate pay roll methods have been evolved in attempts to reduce direct labor costs by increasing efficiency while little, if any, attention has been given to pay roll methods for foremen of departments. Through operating a budget the foreman's conpensation can be based upon savings affected in controllable expense factors. This, then, becomes an incentive wage plan.

Monthly statements of expenses for general overhead departments, administrative, selling, advertising, office, etc., are usually sufficient.

Methods and Details Vary

I have attempted in the foregoing to outline in a general way a successful method of instituting a budget, the control and operation of it and results to be attained, desiring not to be specific as to certain industries, forms or details, which could not be applied generally. The methods and detail necessarily used for cost accounting in paper making and allied industries vary just as greatly as in other lines. Consequently expense and cost budget methods will vary in their detail and application.

We are all familiar with conditions existent in connection with the "cost-plus" contracts of war times, which meant—the more cost the more plus. The successful business of today operates under conditions that are entirely the reverse of this—and the successful and recognized cost accountant of today is the one who, with the management, solves the problems of the present and reduces costs through the elimination of waste and the reduction of controllable expense factors.

*Read at meeting of the Kalamazoo Valley Local Division of the Cost Association of the Paper Industry.

Childsdale Paper Mills Leased to Eastern Men

Childsdale, Mich., January 2, 1923.—Horace Childs, owner of the property of the Childsdale paper mill, has leased the mill it is reported to an eastern paper manufacturer. The new owners are planning on remodeling the property and installing new machinery. The new organization plans to double the number of men now employed.

FOR QUALITY PAPERS
USE

A-1 Bleached Sulphite Pulp

MANUFACTURED BY

Kellner-Partington Paper Pulp Co., Ltd.
Borregaard **Norway**

SOLE AGENTS FOR U. S.

J. Andersen & Co.

21 East 40th Street **New York, N. Y.**

WAYAGAMACK

KRAFT PULP

Uniform in Quality
Essential for Strength Requirement

The Pulp and Paper Trading Company

21 East 40th St., New York, N. Y.

Sole Agents for United States for
CANADIAN KRAFT, Ltd. **Three Rivers, CANADA**

THE MEN IN THE MILL*

By S. L. Bush, Manager Research of the Crocker-McElwain Co., Holyoke, Mass.

This is the first opportunity I have had to meet you gentlemen at a Certificate Bond Conference. Let me assure you that I consider it quite a privilege, as I have for a long time been feeling that I would like the chance to place before you a certain chapter in the story of our products, which you have probably never before considered.

The chapter I have in mind is about the men and women who do the actual manufacturing and shipping of our products—our employees who are responsible, more than any one else, for that kind of satisfaction which can come only from a full measure of standard quality in every sheet of paper that leaves our mills.

Should Be Interested in Industrial Relations

I wish I might take you this morning down to one of the plants and introduce you to some of these folks. I wish I might give you a glimpse into their lives, let you see their problems, their aspirations, their joys, and their sorrows. I am sure you would come away from that visit feeling that Certificate Bond, or Buyers Ledger, or any other of our lines, are after all not merely particular grades of paper, but rather are achievements representing the skill of the loyal, whole-hearted men and women whose hopes and motives in life are very much like your own.

I wish I might tell you, who desire happy homes for your families, about a man who, with his several children, has been ordered to vacate the flat he now occupies. He has spent four or five months trying hard to find another place which will be respectable for his family, practical for his pocketbook, and at the same time within convenient distance from the mill.

I wish I might tell you, who desire that your children shall have a chance in life, about a father who must spend months in a hospital, while his wife, a frail but brave little woman, must go to work, leaving the children in the care of a stranger who, of course, can not give them a mother's loving interest.

I wish you could meet another father, who formerly could not save a single penny, and was always over his ears in debt. This man has been encouraged to save, until, now, he not only has a good-sized and steadily growing bank account, but is also a stockholder in one of our companies.

It is my purpose this morning to show you that the folks who make our products are not only the same kind of human beings as yourselves, but also that the success of your business as our distributors depends more largely than you realize upon the interest they show in their work. I admit that I am not a salesman; also, that I know very little about the intricacies of sales promotion. But I do know that if you wish to make a permanent success of your business, you must handle paper which your customers will re-order over and over again because it has dependability built into it. For this reason, if for no other, you, and the consumers who buy our products through you, should be vitally interested in the men and women who work in our mills, and you should be deeply concerned about the policy of industrial relations in the companies I represent.

Hazard of Unemployment

Some time ago our companies concluded that no man can do his best work except that he be contented on his job. Certainly no man can in any way be contented if the fear of misfortune is continually dogging his footsteps.

In studying the causes for discontent in the mind of the wage earner we long ago decided that the greatest cause was the hazard of unemployment. I certainly know of nothing which will undermine efficiency in any of us so surely as the knowledge that we may suddenly lose the means of earning our livelihood. We desired to protect those who had been with us a sufficient length of time to build themselves in as a permanent part of our working force, but we could find no satisfactory way to eliminate this hazard of unemployment except by furnishing employment.

We accordingly, offered to all who had been in our employ continuously for five years or more, and had rendered satisfactory service, the opportunity of accepting a full-time job.

You will recognize immediately that, by making such a proposal we assumed a financial responsibility which some of our friends warned us might be too heavy. You will agree that we could not afford to meet such a responsibility without expecting that our employees in turn would assume their responsibility of fair play toward us.

Our employees have seen the wisdom and fairness of this proposition, for each one has signed an individual agreement with us that so long as he is in our employ he will conduct himself as he should, assuming the full responsibility for his job with the right attitude, and that, if for any reason he should quit, he will quit clean.

This agreement also guarantees that our mills shall be neutral territory, from which all factional differences are by mutual consent excluded. We thus have union men and non-union men working side by side in perfect harmony.

We now have 159 men and women working under this full-time agreement, many of whom have been receiving full-time employment all through these long months when our operating schedule, as you know, has been very badly restricted.

Difficult to Work with Inexperienced Men

Proper standards in paper manufacture are very difficult to maintain with inexperienced men. On some operations, inexperience on the part of any single individual is a very serious handicap. When a man has given his best, and has been loyal to his job for a term of years of continuous, satisfactory service, he has built himself into the organization sufficiently to be considered a permanent part of the working force.

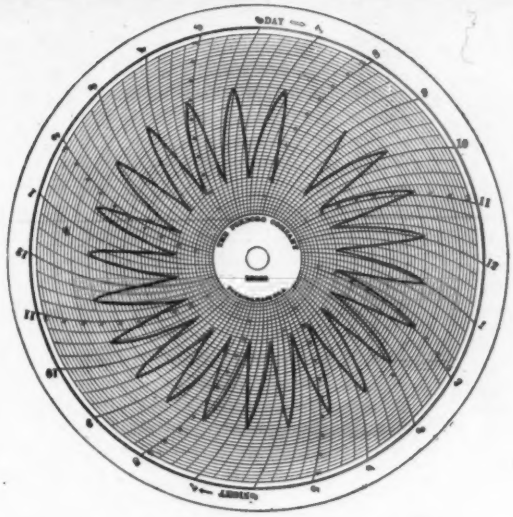
When he thus establishes himself in the industry, we believe that the industry of which he is a part, should furnish him with a continuous means of livelihood so long as he satisfactorily fills his place. Surely such a man is just as much entitled to full-time employment, or special reward, as you are entitled to receive your annual salary, or an increase as you grow in ability and service.

I sense this question in your minds: "How about the man with one, two, three or four years of experience and loyalty to his job? Is he not to be counted in?"

We have tried to recognize this man's ability and service through a plan of paying a service differential in addition to the hourly rate of wage. This plan makes it possible for a man who has completed one year of continuous, satisfactory service on his job to receive with his regular wage, 1c per hour, in addition, if his duties are those classed as unskilled, and 2c per hour, in addition, if he is classed as a skilled man. At the end of two years of continuous, satisfactory service, this differential is increased, in the case of the unskilled man to 2c per hour in addition, and in the case of the skilled man to 4c per hour in addition. The end of the third year brings another similar increase, and at the end of the fourth year, the unskilled man reaches a total addition of 4c per hour, and the skilled man a total addition of 8c per hour above the minimum rate for the job. The minimum rates which we pay are as high, and in some instances,

(*Continued on page 32*)

*Delivered at the Third Annual Certificate Board Conference of the Crocker-McElwain Co., Holyoke, Mass.



Liquid Level Gauges Help to Standardize Operation—

Explanation of Chart Record

The record shown above was made by a Foxboro Liquid Level Recorder applied to a stuff chest in a large paper mill. By means of this record the consistency of the stock can be accurately determined and the use of too much water in washing down the beaters is quickly detected.

Foxboro indicating, single-pen and double-pen recording Liquid Level Gauges improve operating conditions when used with

Stuff Chests
Beaters
Oil and Water Storage Tanks
Forebays
Tailraces
Rivers
Canals
Reservoirs
Etc.

Continuous records of depth or volume have proved a decided help to many paper mill men in securing uniformly economical production.

Foxboro Liquid Level Gauges are the logical choice for paper mill installations. They are constructed to meet your particular requirements both as to character of installation and range. The Foxboro design does away with the float and its mechanical hindrances and limitations. The recording element can be placed at any convenient point for observation, regardless of the point of measurement.

Foxboro Liquid Level Gauges must meet the standards of construction and performance which have won for every Foxboro Instrument its reputation as "The compass of Industry."

For complete information concerning construction and application to your liquid level problems, write to Dept. B. H.

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4761

FOXBORO

THE COMPASS OF INDUSTRY

THE MEN IN THE MILL

(*Continued from page* 30)

higher than the prevailing wage rates in other paper mills in this section. Payments under our service differential plan and our guarantee of full-time employment are an added, and entirely separate expenditure of money.

Why Such Obligations Are Assumed

Why are we willing to assume such financial obligations? Merely because we believe that such an expenditure, when rightly handled, and when paid to deserving men and women, is a sound, business investment, even though it be in human nature. And I have courage to say to you today that such an investment in human nature can be just as sound, and can just as surely pay dividends as any investment in bricks and mortar, or machinery. To my mind, it is not nearly so questionable as some investments in advertising material to which little attention is ever paid.

I am happy to say to you today that the management of our companies is entirely satisfied with the results of their willingness to assume this kind of responsibility, because our employees have been happily fulfilling their obligations.

Some of you will say to me, "Isn't it possible that with your companies making such benefits possible for your employees, you are liable to build up a force lacking in ambition and initiative?" Let me set your minds at rest immediately upon this point. Our employees understand that wages can not be paid except from a portion of the money realized from the sale of the products they make.

They are more and more coming to realize and appreciate that age old truth that if they receive the best reward they must contribute the best effort.

Will Insure Delivering the Goods

What we have done can not help but work toward the building up of a working force that can and will "deliver the goods."

A workman must have the written recommendation of two of his fellow workers who have previously been enrolled under the full-time plan before he can ask his foreman for a full-time agreement for himself.

We say to our foreman that if he signs his name in approval of an applicant for a full-time agreement, or for any of the yearly stages in our service differential plan, he thus assumes an added responsibility for the kind of work the employee performs.

On the other hand, if the foreman does not care to approve the application of the employee, either for an addition on his service differential, or for a full-time agreement, we say to him, "If this man does not justly deserve this reward, is it his own fault? If so, how does it happen that you have kept him so long in your department? If he is not fully deserving is it not possible that you, as foreman, have failed to teach and train him as you should?"

Some of you will ask me, "Is it not possible that with the security of full-time employment, your employees will become careless of the future?" My answer is that we have urged them to cultivate the habit of regular saving, and have made it just as convenient as possible for them to put aside for the rainy day which is bound to come, some portion of their weekly wages.

I have no time to give you the details of our arrangement for savings, but I can tell you that some of the men who have been encouraged to lay aside regularly a portion of their weekly wages have, as a result, become stockholders in the companies. Others have begun to pay for comfortable homes for their families, and I believe that there is one account now in a local savings bank of over $700 which was built up during the last year and a half.

You will recognize the significance of this when you remember that the orders you have been sending us have been sufficient to run our mills only a part of the time, and sometimes only a very small part.

A Reciprocal Arrangement

I want you to notice that in all I have said I have made no reference whatever to the rights which our employees are insisting upon in their dealings with our management, and I have said nothing about the rights either of capital or of management in the dealings between our employees and ourselves. It is all a question of accepting our responsibility and of our employees responding in the proper spirit.

There is not time this morning, to talk of the service of our clinic, nor of our co-operation with the School Department in conducting classes in our plants for the teaching of English and citizenship to our foreign born. Nor can I tell you very much of the contacts I enjoy personally every two weeks with the members of our workmen's committees, when we discuss in a very informal way the countless things which are of mutual interest to management and men.

I have no time to give you even a hint of the activities of our foremen's clubs, our policy on industrial athletics, and the plans we have for the future to help in removing some of the other hazards which still face our employees. For what we have already accomplished is only the beginning of our sincere efforts, to make our employees' interests, our own interests, yes, and your interests, too, meet in mutual success for us all.

Toward this end you will see that we have first assumed our responsibility as we have seen it, and have been willing to take our chances on the kind of response we would receive. If I should merely tell you that our employees have met us fairly and have been willing to assume their share of responsibility, I'm afraid you would say "Bunk." But I've not been giving you a fairy tale. I have here a proof of the truthfulness of what I have said and the loyalty of the men and women who make up the working force in the mills over yonder. About a week ago I told the members of our workmen's committees that I must speak to you today on the subject "Prepared." I told them that I personally could not say truthfully whether we were prepared or not and that the answer lay with them. I wish you could have been there to get their direct response. One said, "Tell them to send in the orders and we'll show them." Another said, "If they'll do their part everything will be all right because we're not only striving to do our best, but we'll try to keep improving the standard." Another characteristic remark was "Tell them they can count on us."

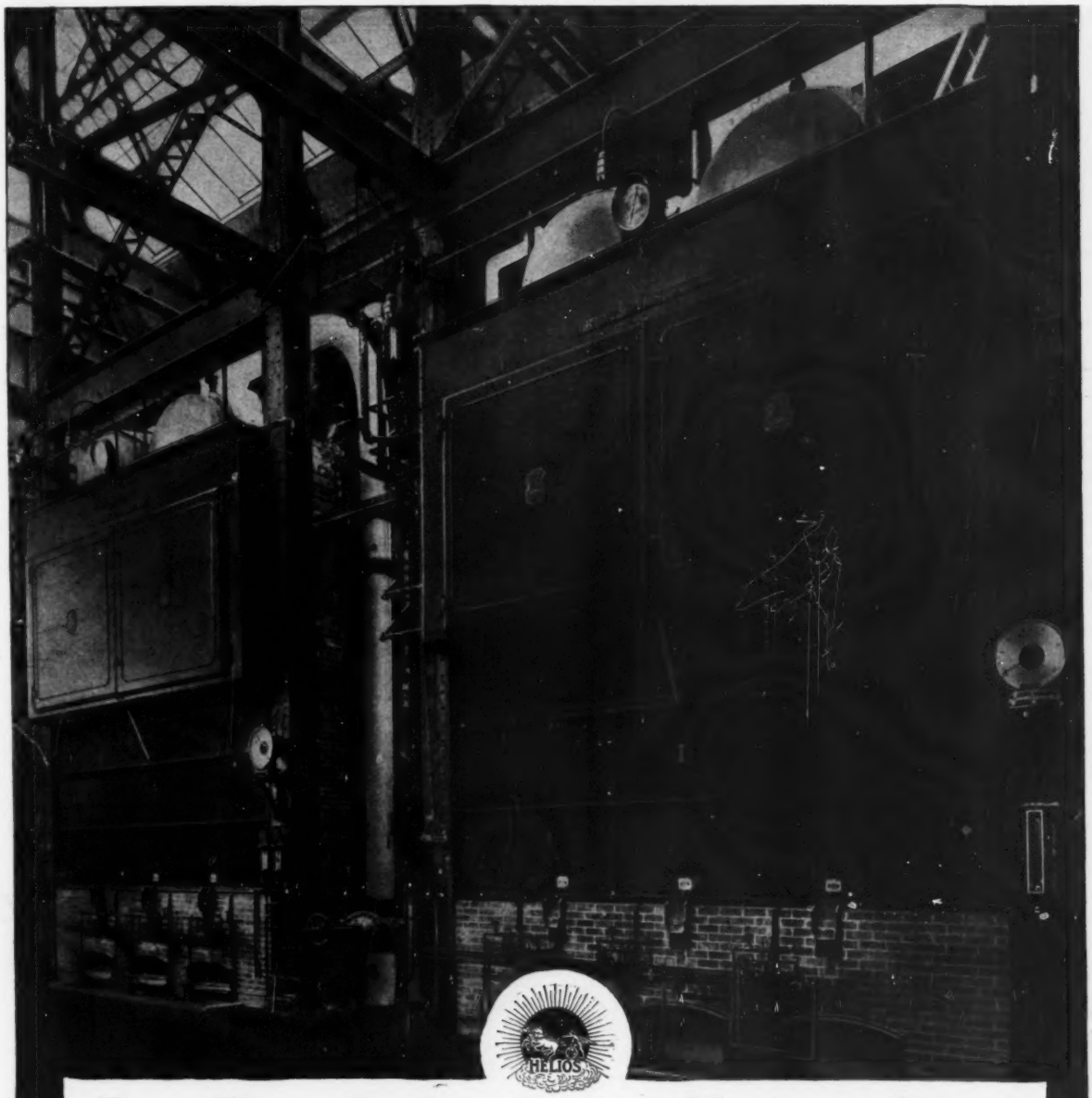
Accepting Responsibility

But I said to them, "You are willing to make these statements yourselves, but how about the people back in your department? Are they willing to accept the responsibility for building maximum utility into the paper they make? Would they be willing to make a statement to that effect?"

The committee members said, "Yes, we believe they would, but we will take such a statement to the people in our departments and find out whether they would be willing to have us signs it as their authorized representatives."

We drew up such a statement, they took it to their various departments, and they were unanimously instructed to sign up. Some

(*Continued on page* 34)



Four Heine Boilers Replace Nineteen Others

FOUR H-Type HEINE Boilers totaling 3064 b.hp. have been installed in a new power house for the Great Falls Manufacturing Company, Sommersworth, N. H. They replace nineteen boilers of the fire-tube type which have been located at different points in the plant. Oil is the fuel burned.

HEINE boilers are popular with engineers and manufacturers generally because of their remarkable service performance. The facility with which the heating surfaces can be kept clean, results in high economy as well as in minimum amount of time lost for cleaning.

The HEINE Engineering Department is at the call of those who contemplate boiler installations. The HEINE Service Department is charged with the task of assisting HEINE Boiler users to maintain the highest possible working efficiency.

HEINE Boilers—HEINE Engineers—HEINE Service—mean boiler room satisfaction.

Heine Boiler Company

SAINT LOUIS, U.S.A.

Branch Offices and Agents in principal cities

24-481

Obituary

Timothy Hazen

HOLYOKE, Mass., December 30, 1922.—Timothy Hazen Fowler, 73, treasurer of the Hampden Glazed Paper Company, died last week of pneumonia at his home at 273 Essex street, after a short illness.

Mr. Fowler was born in Agawam February 14, 1849, and came to Holyoke 40 years ago. In 1897 he married Miss Harriet E. Delano of St. Louis, Mo. Since coming to Holyoke he had been connected with the Hampden Glazed Paper Company as treasurer. He was also a trustee of the Mechanics Savings Bank, the Holyoke Public Library, and a director of the City National Bank. He was a member of the Second Congregational Church. Mr. Fowler is survived by his widow and two brothers.

William Currie

THREE RIVERS, Que., December 30, 1922.—William Currie, well known papermaker, died here recently after an illness of over eight weeks of typhoid fever, followed by pneumonia.

The deceased was born at Bury, Que., forty-seven years ago, and was the eldest son of Donald and Margaret (Morrison) Currie, formerly of The Ise of Skye, Scotland. His boyhood days were spent at Bury, and when a young man he went to Wilder, Vt., where he engaged in the paper making business, later returning to Canada, where he continued paper making. In 1905 he married Miss Isabella Elliott, daughter of the late James Elliott and Mrs. Elliott. By this union two children, Clifford and Muriel were born. Mr. and Mrs. Currie resided in East Angus until last summer, when they moved to Three Rivers.

The late Mr. Currie was a member of A. F. & A. M. Lodge, of White River Junction, No. 21, also a member of the St. Francis Lodge, I. O. O. F. of East Angus.

The Masons of Three Rivers held a service at the home of the deceased, then accompanied the remains to the train. On the arrival of the Q. C. R. train at Sherbrooke, Victoria Lodge A. F. & A. M. took charge of the remains, conveying them to the Chapel of Lord's Undertaking establishment, where the funeral service was held.

THE MEN IN THE MILL

(Continued from page 32)

of the employees who were on the night shift were not personally approached by their representative but a copy of the statement was left in the room where they could see it. In the morning their representative found it still there, with the signatures of every man on the night shift affixed. (Other departments had done the same.) In order that you can get some small part of the inspiration and satisfaction which their response had given to me, I want you to see these sheets which have come from various departments—folded and some of them crumpled, all of them covered with finger marks and with the original signatures attached.

As you read it over judge for yourselves whether our employees are sincere in their determination to assume fully the responsibility of their individual jobs.

More Than Inanimate Physical Substance

Gentlemen, when you sell Certificate Bond or Interwoven Covers, or any single pound of paper we manufacture, remember that you are not dealing merely in a piece of inanimate physical substance, but rather that you are dealing in something which represents the hopes and the fears, the ambitions and the disappointments, the joys and the sorrows, the successes and the tragedies of seven hundred men and women who are trying to do their best to be fair with you.

When orders cease to come and the mills go down, it means something serious in the lives of many of them. It means the haunting fear of an unpaid grocery bill instead of a piano for the daughter's music lesson. It means the harassing of some contemptible landlord instead of the security of a comfortable home. It means the necessity for the son or the daughter to go to work, to patch out the family income instead of the education long hoped for, fought for and saved for. It so often may mean that the boy in the home of the foreign born may miss the chance to attain very much of any of our American ideals.

We do not ask for favors. Our employees do not ask for and do not want charity. Together we are trying to work out a square deal, based not upon our rights to anything but upon our individual responsibility to each other and to the customers we serve.

We hear about some corporations having souls and we hear about what is called a group conscience, but what I'm bringing to you today is a message from the beating heart of an organization which is trying to serve your customers through you.

Have you any message in return?

Secretary Hoover on Business Conditions

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., January 3, 1923.—Secretary of Commerce Hoover has the following to say regarding 1922 business conditions:

"At this time of the year it is customary for business to pause long enough to take account of the progress made during the twelve months just elapsed, and from this standpoint to make some conjectures as to the coming months of the new year. It is with a feeling of satisfaction that most industries can view the progress of the past year in spite of the many difficulties which have been experienced. At the close of 1922 there are no serious obstacles in sight which should hinder further advances during the early part of the new year. The unsettled conditions in foreign countries, particularly in Europe, are still depressing our trade, and, to a certain extent have, no doubt, kept the prices of agricultural products below the level of other commodities. Within the past two months this latter condition has, in a measure, been relieved."

Referring specifically to paper, the statement says:

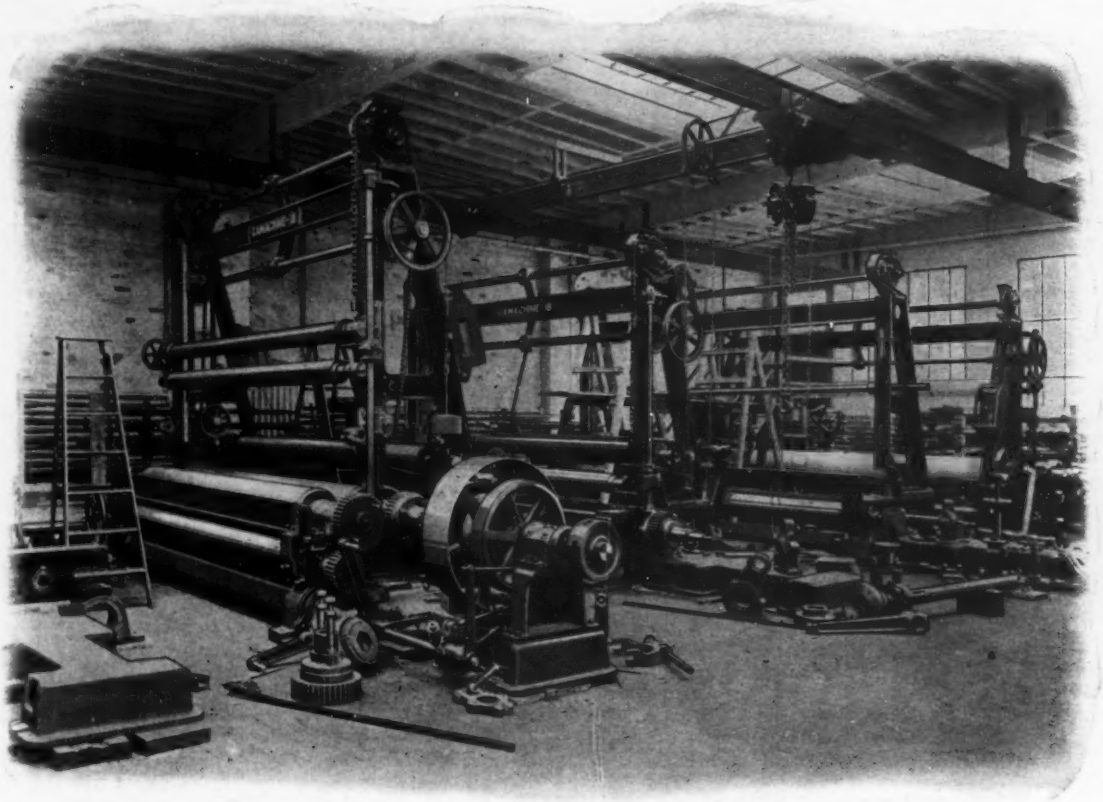
"The paper industry showed an increase of from 20 to 30 per cent in activity over 1921. Ten months' figures show an increase of 21 per cent in production of mechanical wood pulp and 34 per cent for chemical pulp. Stocks of mechanical pulp declined about 20 per cent, while chemical stocks increased about 50 per cent.

"News print paper production increased 19 per cent over the 1921 ten months' period and total stocks increased slightly during the year, though mill stocks declined. Consumption by publishers was 15 per cent heavier than in 1921. Prices declined about 10 per cent. Total production of paper increased 34 per cent, with an increase of 55 per cent in fine paper. Total paper stocks at mills showed little change from a year ago."

Fred C. Strype Arranges for New Lines

F. C. Strype, paper merchant of 320 Broadway, New York, has returned from a lengthy stay in Great Britain and the continent, visiting manufacturers of the highest grade hand made and machine made papers and tissues. He will, in the future, have the sole representation in the United States of Robert Fletcher & Son, Stoneclough near Manchester, England, manufacturers of the well-known Archer and Ivy Brands Cigarette Carbon, Stereotype, Copying, Pottery, Rag Onion Skin and Grass Bleached Tissue, which may be obtained embossed, embossed and printed or watermarked in substance 20 x 30, 5 lb. and heavier.

He will also represent exclusively in the United States several other manufacturers of very high grade papers which should be of particular interest. He found the English and Continental manufacturers busy and with the advances in rags and bleached sulphite, looking forward to higher prices.



"CAMACHINE-18" PAPER AND BOARD MILL ROLL-WINDERS IN COURSE OF CONSTRUCTION IN CAMERON SHOP

"Camachine-18" is for service in paper and board mills as winder or rewinder.

Each machine is built, tested and guaranteed with reference to the individual requirements of customer.

The ability to save labor and waste is the one vital point in judging the merits of a machine.

CAMERON MACHINES (CAMACHINES)

are built in a complete line of types and sizes to provide for the whole range of requirements in the processes of slitting and roll-winding

REQUIREMENTS OF PAPER AND PAPER BOARD MILLS, PAPER CONVERTING PLANTS AND PAPER GOODS MANUFACTURERS for rolls of any width, diameter, or weight, are covered by CAMACHINES, types 6, 8, 9, 10, 12 or 18.

REQUIREMENTS OF TEXTILE, RUBBER AND MISCELLANEOUS GOODS MANUFACTURERS, for rolls of all sizes made of all kinds of materials such as plain or coated fabrics, felt, tinfoil, asbestos, abrasive cloth, etc., are covered by CAMACHINES, types 6, 8, 9, 10, 24, 26, 34, 36, or by

SPECIAL TYPES FOR SPECIAL OR INDIVIDUAL REQUIREMENTS

CAMERON MACHINE COMPANY

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PATENTEES AND BUILDERS OF CAMERON MACHINES

STATIC ELECTRICITY

The following is abstracted from No. 52 of the series of Safe Practices Pamphlets published by the National Safety Council, 400 North Michigan Boulevard, Chicago, and published in *National Safety News*, December, 1922.

During recent years, static electricity has become recognized as the cause of many serious fires and explosions, and careful studies have been made for the purpose of developing practical methods of eliminating "static" or guarding against its dangers.

Every one is familiar with the ordinary manifestations of static electricity.

If a cat is stroked vigorously its fur seems to crackle—little sparks jump between the fur and the hand. By walking across a carpet in dry winter weather, a spark of considerable size can be obtained between the finger and a grounded metal object such as a radiator or lighting fixture. In these cases the electric charge has become so large that it no longer remains "static," but jumps through the air, in the form of a spark, to some other body or to the ground. It is such sparks that often cause fires and explosions.

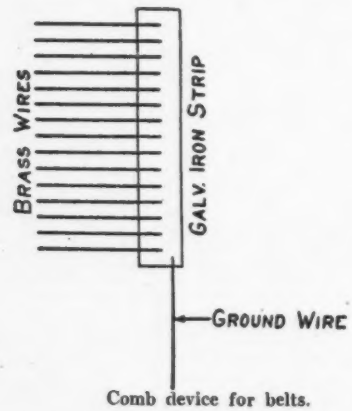
Drive Belts

Static electricity is generated on drive belts, probably by a combination of: (1) contact between belt and pulley, and (2) friction between the belt and the air. The latter element is important as tests show that the charge on the belt is heaviest at points between the pulleys. Charges are also found on conveyor belts, as high as 45,000 volts having been found on one rubber belt carrying grain.

In addition to the fire and explosion hazard, a heavy static charge on a belt may cause direct injury by attracting the hair of a person walking under it. There have been cases where a girl's hair has been thus attracted into contact with the belt, caught on the belt, and the scalp actually pulled off.

Powdered Materials

Static electricity may also be generated on any powdered material falling through the air, being blown through a pipe, or ejected from small nozzles or orifices, as in spray-drying or dust-

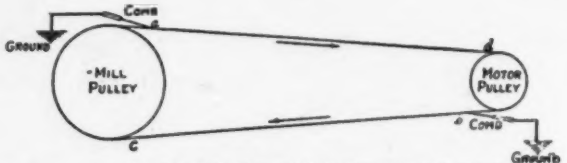


Comb device for belts.

collecting systems. This becomes dangerous if the powdered material itself forms an explosive dust mixture with the air, thus furnishing fuel for a static spark to ignite. It has recently been proved that any inflammable dust may explode under favorable conditions. Inflammable dusts include not only powder, certain chemicals, and the dusts of coal, grain, flour, starch, and other grain products, but also those of sugar, wood, aluminum, celluloid, cork, cotton, fertilizer, powdered milk, phonograph records, rubber, shoddy, soap, shellac, sulphur, bark, and other combustible substances.

Grounding Belts

The static charge on a belt is not always eliminated by grounding the pulley or shaft; the belt itself must be grounded. Various methods have been used. The experts of the U. S. Department of Agriculture, after a thorough study, recommended the use of either (1) two wire combs, grounded, rubbing on the belt at the points where it leaves the two pulleys; or (2) a network of grounded wires, stretched parallel to and close to the belt on both



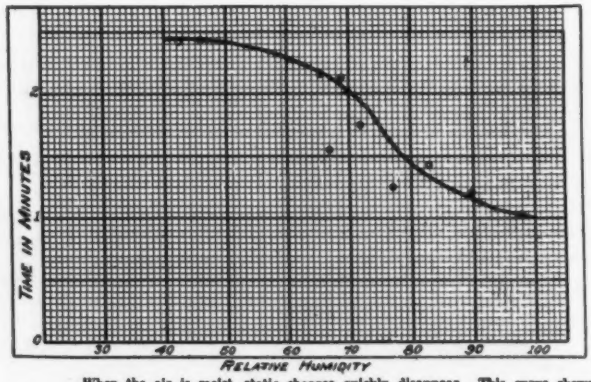
Courtesy, D. J. Price and H. H. Brown and Nat'l Fire Protection Ass'n
Proper location of combs for removing static from belts.

sides. These arrangements are undoubtedly the most effective and certain. Sag and whipping of the belt must be looked out for.

Effect of Humidity

It is common knowledge that it is more difficult to get a static spark in wet weather, and easiest in winter when the air is dry. In damp weather all objects carry a slight film of moisture, containing some impurities (such as carbon dioxide) from the air. This film of moisture is a fairly good electrostatic conductor, and serves to connect every part of every object with the ground, thus preventing the formation or accumulation of static charges. The degree of conductivity depends on the relative humidity of the air.

It is therefore possible to eliminate static troubles simply by moistening the air. One authority states that four grains of mois-



When the air is moist, static charges quickly disappear. This curve shows relation between relative humidity and time of discharge.

ture per cubic foot of air disposed of this trouble in a rubber factory. Assuming a room temperature of about 70 degrees Fahrenheit, this quantity of moisture means a relative humidity of fifty per cent. This degree of humidity was likewise found sufficient to keep down static difficulties by another company handling inflammable material.

Electric Neutralizer

A special device for eliminating static is the so-called electric neutralizer (patented), used in printing establishments and similar

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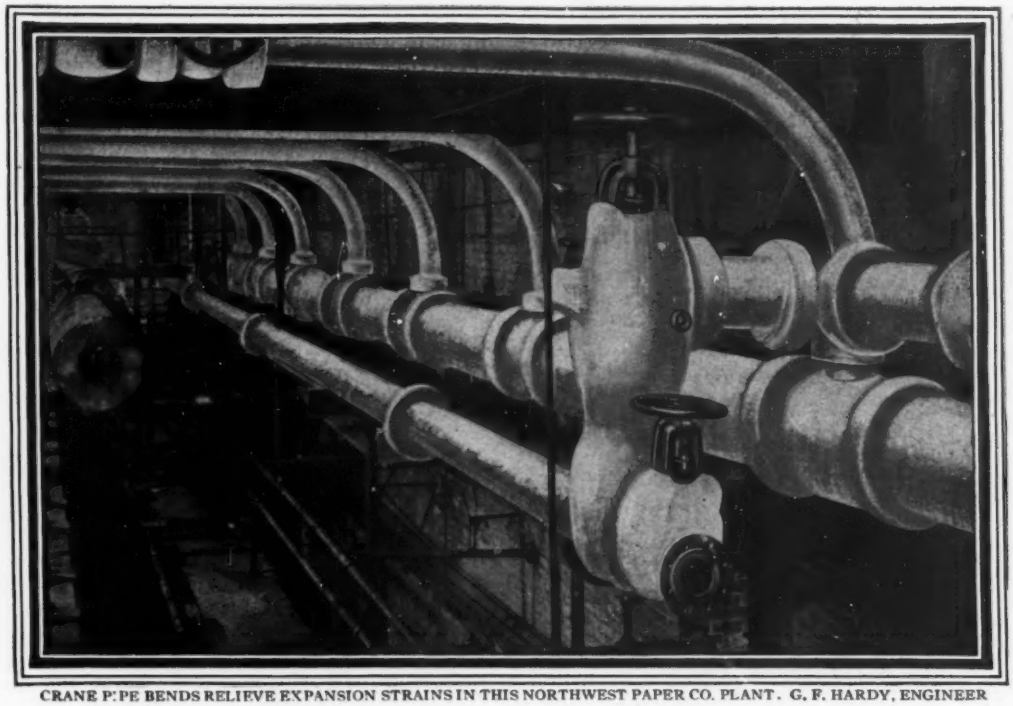

CRANE PIPE BENDS RELIEVE EXPANSION STRAINS IN THIS NORTHWEST PAPER CO. PLANT. G. F. HARDY, ENGINEER

DEPENDABLE AND EFFICIENT PIPE-LINES

Permanently tight steam connections in systems for process heating are assured where dependable pipe bends relieve the expansion strains. Crane pipe bends, supplied in any required size for every possible arrangement of steam piping, are accurately formed from the highest quality steel pipe. They are equipped with screwed, shrunk, Cranelap or Craneweld flanges, making units which will stand up under any severe strains to which they may be subjected. Combined with Crane valves and fittings, they provide a thoroughly dependable system with maximum working efficiency.

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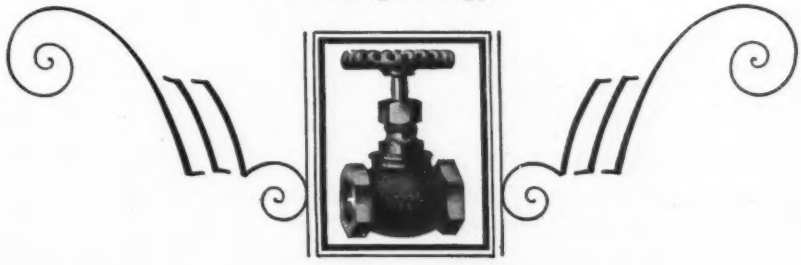

Crane 75 Low Pressure Globe Valve

Recent Incorporations

BERKOWITZ ENVELOPE COMPANY, Wilmington, Delaware. Capital $500,000. Corporation Trust Company, of Delaware.

MUSIKER & HAHN, Brooklyn, New York, printers and stationers. Capital $10,000. Incorporators W. and M. Musiker, L. Grossman. Attorney, M. Blumberg, 922 Broadway.

PAGEL, HORTON & Co., Manhattan, New York, wood pulp. Capital $350,000. Incorporators, A. J. Pagel, E. M. Grant, Jr., H. G. Wenzel. Attorney, H. G. Wenzel, Jr., 46 Cedar street.

GEORGE HALL CORPORATION, Ogdensburg, New York. Coal, wood pulp and paper business. Capital $800,000. Incorporators, F. A. Augsburg, Ogdensburg.

AMERICAN LAKES PAPER COMPANY, Wilmington, Delaware, boxes. Capital $3,250,000. Corporation Trust Company of America.

ACTIVE PAPER COMPANY, Manhattan, New York. Capital $5,000. Incorporators, B. Schostakowsky, E. Kalish, S. Klein. Attorney, S. L. Marcus, 277 Broadway.

BEST TISSUE PAPER COMPANY, Manhattan, New York. Capital $20,000. Incorporators W. and M. Weisburd, P. Stabunsky. Attorney, A. Bloch, 350 Broadway.

CAPITAL INCREASES

HUDSON VALLEY PAPER COMPANY, Albany, New York, $125,000 to $500,000.

LOUISIANA CELOTEX COMPANY, Chicago, change to the Celotex Company, $900,000 to $4,500,000.

NIAGARA WALL PAPER COMPANY, Niagara Falls, New York, $500 to $500,000.

DEFIANCE PAPER COMPANY, Niagara Falls, New York, $750,000 to $1,500,000.

SAQUOIT TOILET PAPER COMPANY, New Hartford, New York, $30,000 to $370,000.

DEXTER FOLDER COMPANY, Manhattan, New York, $750,000 to $2,000,000.

EVER READY ROLL LABEL COMPANY, Manhattan, New York, $10,000 to $75,000.

ISLAND PAPER COMPANY, Carthage, New York, $60,000 to $600,000.

NORTH END PAPER COMPANY, Fulton, New York, $40,000 to $150,000.

GOULD PAPER COMPANY, Lyons Falls, New York, $2,000,000 to $10,000,000.

SENECA PAPER COMPANY, Geneva, New York, $10,000 to $50,000.

JAMES P. HEFFERNAN PAPER COMPANY, Manhattan, New York, $50,000 to $100,000.

BEECHER, PECK & LEWIS, Detroit, Michigan, $90,000 to $300,000.

CENTRAL MICHIGAN PAPER COMPANY, Grand Rapids, Michigan, $25,000 to $300,000.

U. S. PAPER SUPPLY COMPANY, Chicago, Illinois, $2,500 to $50,000.

SWIGART PAPER COMPANY, Chicago, Illinois, $750,000 to $950,000.

MALONE PAPER COMPANY, Malone, New York, $100,000 to $750,000.

MANHATTAN CARD AND PAPER COMPANY, Manhattan, New York, $20,000 to $150,000.

MONARCH STATIONERY AND PAPER COMPANY, Jamestown, New York, $22,000 to $50,000.

BUFFALO ENVELOPE COMPANY, Buffalo, New York, $140,000 to $200,000.

MOHAWK VALLEY PAPER COMPANY, Little Falls, New York, to issue 3,000 shares preferred stock, $100 each; 9,000 common, no par value.

KUPFER BROS. COMPANY, Manhattan, New York, $50,000 to $600,000.

LABOITEAUX & Co., Manhattan, New York, $10,000 to $100,000.

EDWIN SHUTTLEWORTH COMPANY, Manhattan, New York, $100,000 to $200,000.

STATIC ELECTRICITY

(*Continued from page 36*)

places where paper, textile, rubber, etc., sheets come out through rolls. This device consists of a high voltage magneto or transformer of which one pole is grounded and the other pole discharges, not into an ordinary electric circuit but into a "blind alley" consisting of conductors placed just above and just below the paper as it comes off the rolls, each conductor having a row of points one to two inches apart, pointing toward and close to the paper. Any charge that may exist on either surface of the paper discharges to these points at the instant when the points are charged with the opposite polarity.

This device has been used successfully in the paper and printing industry where static causes operating difficulties but no accident or fire hazard.

NOTE: On the paper machine it is customary to arrange a light metal chain grounded on the machine to drag on the web of paper as it leaves the calender stack. By controlling the moisture content of the paper and maintaining a minimum of 7½ to 8½ per cent of moisture, most of the difficulty from static electricity is eliminated.

This control of moisture content is done either in the drying operation itself or by the use of a sweat roll or other dampening device before the paper passes through the calender rolls. In conditions where low moisture content in the paper is a necessity, and where the paper is highly finished, the use of the device mentioned, to neutralize electricity would have value. EDITOR.

News of the Wisconsin Trade

[FROM OUR REGULAR CORRESPONDENT.]

APPLETON, Wis., January 2, 1923.—The Niagara mill of the Kimberly-Clark Company won the safety contest between the company's three plants at Niagara, Wis., Niagara Falls, N. Y., and Kimberly, Wis., which ended this month. In the two months of the contest there were three accidents at the Kimberly mill, two at Niagara Falls and none at Niagara, Wis. The contest was under the direction of M. G. Hoyman, safety director of the Kimberly-Clark Company.

Herbert Banta has been elected general superintendent of the Green Bay Paper and Fibre Company plant at Green Bay. Mr. Banta began his career as a worker in the engine room of the Wolf River Paper Company mills at Shawano.

The plant of the Bergstrom Paper Company, at Neenah, was closed down for two or three days last week because of an accident to its turbines.

To Manage Whitaker Indianapolis Division

INDIANAPOLIS, Ind., January 2, 1923.—Fred J. Ostermeyer, former managing director of the St. Paul Division of The Whitaker Paper Company will take charge of the Whitaker Paper Company, Indianapolis Division. Mr. Ostermeyer has been in St. Paul for the past year following eighteen months as treasurer of the Chicago Division. He also occupied this position with the Indianapolis Division prior to taking up this work in Chicago.

Stone-Andrews Sales Force Meets

BOSTON, Mass., January 2, 1923.—Members of the sales force of Stone Andrews Paper Company held their annual meeting at the company's office last week. There was a large attendance. New connections and lines were discussed and the general policy for 1923 was also taken up in detail.

Emil J. Hansen Operated On

GREEN BAY, Wis., January 2, 1923.—Emil J. Hansen, sales manager of the Fort Howard Paper Company, underwent an operation for gall stones at Green Bay, Wednesday, December 27. At present he is doing nicely.

THE FAMOUS YANKEE

has again been improved to further increase its remarkable production

Ask Us

BELOIT IRON WORKS

BELOIT, WISC.

New York Trade Jottings

Announcement is made that the Whiting Paper Company, of Fourteenth street and Seventh avenue, New York, no longer issues long price list on paper.

* * *

The Millcraft Paper Company, of Cleveland, Ohio, has recently been appointed the New York agent for System Bond, manufactured by the Eastern Manufacturing Company, of 501 Fifth avenue, New York.

* * *

The employees of the Dexter Folder Company, of 28 West Twenty-third street, New York, were entertained by the company at an old fashioned school performance and dance during the Christmas holidays.

* * *

Whitehead & Alliger Company, New York representatives of the Advertising Paper Mills, of Holyoke, Mass., has recently distributed a booklet to the trade containing samples of their Broadcloth Covers.

* * *

James C. Deery, Inc., dealer in paper, formerly of 1270 Broadway, New York, announces under date of January 2 the removal of his offices to 464 Broome street, New York. The new phone number will be Canal 1476.

* * *

The J. E. Linde Paper Company, of 84-90 Beekman street, New York, has just issued a new price list covering printing papers. A price book on wrapping paper, twine, stationery, etc., has been sent out to the trade.

* * *

The Manhattan Card and Paper Company, of 25 Beekman street, New York, has accepted the New York representation of Colonial Covers, manufactured by the Peninsular Paper Company, of Ypsilanti, Mich.

* * *

H. L. Paddock, president of the Oswego Falls Corporation, of Fulton, N. Y., visited R. S. Kellogg, secretary of the News Print Service Bureau, at the Bureau offices, Canadian Pacific Building, New York, while on a business trip to the city last week.

* * *

John W. Blodgett, of Grand Rapids, Mich., president of the National Lumber Manufacturers' Association, was among the New York visitors of the past week, being accompanied by his family. Mr. Blodgett left for Washington on January 1 to spend several days there before his return home.

* * *

E. G. Bullis, well known in the paper trade, has just been appointed Eastern Sales Manager of the Peerless Paper Company of Dayton, Ohio. The Peerless Paper Company in the past has been identified largely with the making of book papers and intends henceforth also to manufacture mill brand waterworked bond and ledger papers.

* * *

The Peerless Paper Specialty Company, Inc., announces the opening of its new offices and factory at 200-02 Greene street, New York, with full equipment for the manufacture of all sizes, special or regular, small roll paper specialties of every description. A complete line of paper is also carried, inquiries from the paper jobbing trade being solicited. The telephone number is Spring, 3743.

* * *

The Forest Paper Company, Inc., of 76 Duane street, New York, has recently been appointed one of the selling agents of this city for the Ideal Brand Gummed Papers. This brand is manufactured by the McLaurin-Jones Company, of Brookfield, Mass. Other New York representatives of this line include the Beekman Paper and Card Company, of 318 West 39th street and the White-Burbank Paper Company, Inc.

* * *

Quincy P. Emery resigned last week from Stone & Andrew, Inc., of Boston, Mass., with whom he has been associated for the past three years, during the last year as sales manager. Mr. Emery has announced his affiliation with the Kennelly Paper Company, of 200 Fifth avenue, New York, and this week will take up new quarters in Boston to handle the New England trade. It is understood that a Massachusetts corporation will be formed to handle the business in this section and that Mr. Emery will act as president of the corporation.

* * *

It was reported in the financial district last week according to the New York *Times* that a deal whereby surplus of sulphur produced by the Texas Gulf, Union and Freeport-Texas Companies will be sold abroad, and that several men identified with these properties have gone abroad to arrange the details of the export trade. A corporation to handle the business of the three corporations has already been formed. Shipments of sulphur through Galveston and Texas City, the leading terminals for the corporations, were 484,966 tons in the twelve months ended October 1, compared with 296,931 tons in the preceding twelve months, an increase of about 63 per cent. These figures do not include shipments from Freeport, near the Freeport-Texas properties. Of this total, 204,728 tons left for foreign ports and 280,238 tons for American ports.

Bids and Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., January 3, 1923.—The purchasing officer of the Government Printing Office will open bids on January 5 for the following:

19,200 pounds (400 reams) 20 x 25—48 various colors, rough cover paper;

39,800 pounds (800 reams) various sizes white ledger paper:

16,800 pounds (300 reams) 25 x 38—56 wood manila paper;

20,000 pounds (12,000 sheets) 25 x 30—No. 2 quality, binders' board;

7,400 pounds (100 reams) 24 x 38—74 sulphite manila paper;

20,000 pounds (4,000 sheets) 34 x 44—No. 10 trunk board.

George La Monte & Son have been awarded the contract by the purchasing officer of the Government Printing Office for furnishing 765 pounds of 17 x 28—25½ No. 20, yellow safety writing paper, at $.238 per pound, bids for which were opened on December 15.

The purchasing officer of the Government Printing Office has received the following bids:

637 pounds 17 x 28—25½ No. 20 blue safety writing paper;

2,000 pounds 22 x 34—40 No. 20 gray safety writing paper: George La Monte & Son at $.238 per pound and The Perfect Safety Paper Company, at $.26 per pound.

Boston Paper Market Improves

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., January 2, 1923.—The Boston paper market is stronger, following a slight falling off which marked the Christmas holiday season. The paper merchants of Boston, preparing for an expected rise, are busy taking stock. There is a generally optimistic tone and some of the experts look for a slight advance in price, with increased demand which they feel sure is coming.

There is a noticeable scarcity of help and this, with other important factors, is certain to be reflected in an upward trend in prices, the Boston men say. They have been somewhat handicapped the last few days by shipments delayed by the tieup caused by the storm, and general transportation conditions.

the form of a Lubrication Audit which the Vacuum Oil Company offers to make for individual plants. See details below.

If you are convinced that the lubrication of your machinery warrants serious thought, please feel free to write at once for this Vacuum Oil Company service. To gain time we suggest that you address our nearest branch office.

The Lubrication Audit

Explained Step by Step in Condensed Outline

INSPECTION: A thoroughly experienced Vacuum Oil Company representative in co-operation with your plant engineer or superintendent makes a careful survey and record of your mechanical equipment and operating conditions.

RECOMMENDATIONS: We later specify, in a written report, the correct oil and correct application of the oil for the efficient and economical operation of each engine and machine. This report is based on:—

(1) The inspection of the machines in your plant.

(2) Your operating conditions.

(3) Our 57 years of lubricating experience with all types of mechanical equipment under all kinds of operating conditions throughout the world.

(4) Our outstanding experience in manufacturing oils for every lubricating need.

CHECKING: Following the installation of our oils, periodical calls will be made.

FOR THE ABOVE FREE SERVICE address our nearest branch office.

Domestic Branches:

New York *(Main Office)*	Boston	Chicago	Philadelphia
Detroit	Pittsburgh	Indianapolis	Minneapolis
Des Moines	Buffalo	Rochester	Albany
	Dallas	Kansas City, Kan.	

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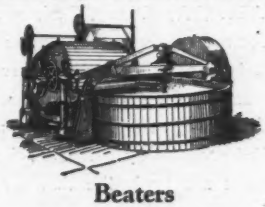
Lubricating Oils

A grade for each type of service

A Lubrication Audit

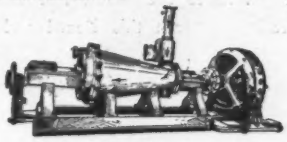
in the *Paper Industry*

would point out the Correct Lubrication for the important machines as follows:



Beaters

Beater bearings, generally unnecessarily hot, will run cooler if the stock leakage is eliminated and oiling is regularly attended to. The regular use of **Gargoyle D. T. E. Oil Extra Heavy** overcomes beater lubrication difficulties.



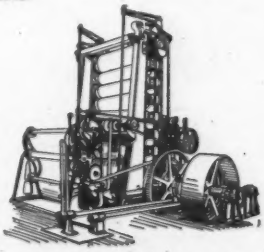
Jordans

Because of the high speeds and heavy pressures which are always present, and the side pull on bearings when belt driven, it is necessary to use a heavy bodied oil. For this purpose we recommend **Gargoyle D. T. E. Oil Extra Heavy.**

Paper Machines

For bearings of the paper machine, subjected to induced heat from steam used for drying, an extra heavy bodied oil is required such as **Gargoyle D. T. E. Oil Extra Heavy.**

The rolls at the wet end subjected to moisture and heavy pressure demand a compounded oil which will resist the washing tendency and maintain a perfect oil film. We recommend **Gargoyle Voco Engine Oil No. 1** for these specially trying conditions.



Calenders

Paper machine production is directly dependent upon uniform speed. Calender bearings are subjected to heavy pressures and high frictional heat. The regular application of **Gargoyle D. T. E. Oil Extra Heavy** insures uniform speed, and consequently minimizes "broke."

VACUUM OIL COMPANY

Editorial

Vol. LXXVI New York, January 4, 1923 No. 1
FIFTY-FIRST YEAR

Standardization During 1922

According to Albert W. Whitney, Chairman, American Engineering Standards Committee, the year 1922 has seen greater activity in industrial standardization than any other year in the history of American industry. Notable progress was made during the year in standardization of raw materials, of manufacturing processes, and of finished products by individual firms, by industrial and technical associations and by bodies that are working on national and international lines.

One of the most far-reaching accomplishments of the year was the organization, on a working basis, of the Federal Specifications Board which develops and approves the specifications under which all government purchases are made, and the development of a plan of co-operation between this Board and the American Engineering Standards Committee.

The organization of Secretary Hoover's Division of Simplified Practice and its entrance into the industrial field has had a highly stimulating effect on the industrial standardization movement and has helped in particular to press home to the business man that standardization is one of the main approaches to efficiency and the elimination of waste. The Division of Simplified Practice has under way the standardization of lumber and other products. The distinction between the basis for this work and that of the American Engineering Standards Committee lies in the fact that the Division of Simplified Practice devotes itself particularly to that part of the field in which the decisions must be made on a non-technical basis.

Great advances have been made by industry itself on the more technical side. More than 120 standardization undertakings now have an official status before the American Engineering Standards Committee, 43 of them having been initiated within the last year; this is an increase of more than 50 per cent. Of the 28 industrial standards developed and approved by the American Engineering Standards Committee since its organization in 1918, 13 were approved within the past year. The efforts to develop national safety codes, which have been under way for a number of years, began for the first time to bear fruit. Six safety codes, pointing the way to the elimination of the most serious classes of industrial accidents were approved during the year.

Another outstanding accomplishment in the industrial standardization work of this year was the development of the "standardization-by-conference" idea, in which all of the interests involved in the subject, including producers, consumers, and representatives of the public and government, participate in deciding: First, whether standardization is to be undertaken, second, what shall be its scope, and third, what shall be its relation to other standardization work.

The year 1922 saw also the development of an increased interest in industrial standardization and an increased appreciation of its effect on production efficiency, distribution of costs, and consumer demand, on the part of such important commercial bodies as the International Chamber of Commerce, the Chamber of Commerce of the United States, and the New York State Chamber of Commerce. It is highly desirable that such co-operation should be maintained if American industry is to be given the commercial advantages which will correspond to those that are being developed through standardization in Germany and England and other foreign countries.

The last year saw important developments in international standardization. There are now national standardization bodies in 15 foreign countries and a report recently received by the American Engineering Standards Committee indicates that plans are under way for the development of such work in each of the South American republics. The most recent of the national bodies is the Australian Engineering Standards Association, which held its first meeting on November 3.

One of the most encouraging developments of the year has been the growth of interest in standardization and simplification among the many trade associations of America. These associations, representing large groups of producers and consumers, have extremely favorable opportunties both for developing industrial standards and for putting them into effect.

It is universally recognized that standardization is a legitimate and constructive activity of trade associations. The clarification of the legal aspects of the question by the publication in the early part of the year of the correspondence between the Attorney-General and Secretary Hoover has done much to foster and extend standardization activity among trade associations.

Canadian Paper Exports Increase

The total exports of pulp and paper from Canada for November, 1922, were valued at $11,425,998 which was an increase of $1,020,565 over the previous month and of $1,984,148 over November, 1921.

The exports of news print for November of this year were valued at $6,733,078 as compared with $5,339,358 for November of 1921, of book paper $16,778 for November of 1922 as compared with $719 for November of 1921 and of all other papers $480,930 for November of 1922 as compared with $393,881 for November of 1921.

The exports of sulphate pulp for November, 1922, as compared with the same month in 1921 were valued at $917,560 as compared with $854,298, of bleached sulphite pulp $1,074,864 as compared with $649,255, of unbleached sulphite pulp $1,205,781, as compared with $1,138,639 and of mechanical pulp $997,007 as compared with $1,065,700.

Of these exports paper to the value of $6,260,236 and pulp to the value of $3,456,496 were sent to the United States, paper to the value of $534,165 and pulp to the value of $486,442 were sent to the United Kingdom and paper to the value of $436,385 and pulp to the value of $257,274 were sent to all other countries.

Pulpwood exports for November, 1922, were 64,652 cords valued at $650,974 compared with 49,476 cords valued at $614,974 exported in November, 1921.

For the first eight months of the current fiscal year Canadian exports show striking increases over the corresponding eight months of last year. During these periods news print was exported to the amount of 12,807,661 cwt. valued at $45,435,172 in 1922 as compared with 9,012,612 cwt. valued at $42,127,725 in 1921, book paper 28,729 cwt. valued at $203,082 in 1922 as compared with 14,739 cwt.

valued at $177,455 in 1921 and other paper $4,128,169 in 1922 as compared with $2,675,005 in 1921.

The exports of sulphate pulp were 2,030,555 cwt. valued at $6,249,331 for this period in 1922 as compared with 1,423,524 cwt. valued at $4,959,144 in 1921, of bleached sulphite 2,148,362 cwt. valued at $8,268,673 in 1922 as compared with 931,513 cwt. valued at $4,316,251 in 1921, of unbleached sulphite 3,121,842 cwt. valued at $7,602,441 as compared with 1,743,422 cwt. valued at $6,088,844 and of one chemical pulp 4,378,227 cwt. valued at $6,184,455 as compared 3.358,800 cwt. valued at $7,235,318.

From these figures it will be seen that for this eight months' period Canadian news print exports have increased by 3,800,000 cwts., exports of book paper have almost doubled and other exports of paper have increased considerably. Canadian exports of pulp have increased by more than 50 per cent, the increase being especially notable in sulphite pulp.

Exports of pulpwood for the eight months to November 30 amounted to 664,067 cords valued at $6,873,809 compared with exports in 1921 of 518,067 cords valued at $6,749,433.

Consolidated Water Power Increases Stock

[FROM OUR REGULAR CORRESPONDENT.]

APPLETON, Wis., January 3, 1923.—The Consolidated Water Power and Paper Company, at a special meeting of stockholders last week, voted to increase the capital stock of the company from $1,600,000 to $6,400,000 and to distribute the new shares as dividends to the stockholders. The procedure gives three new shares of $100 par value for each share of old stock outstanding. Officers and directors of the company urged the move because they believed the value of the outstanding stock did not represent the value of the large properties of the Consolidated Company.

George W. Mead, president of the company, issued the following statement concerning the stock dividend:

"The Consolidated Water Power and Paper Company has been in active business for twenty years during which time it has made valuable additions to its properties instead of paying its earnings in cash dividends. In other words, the company has accumulated a surplus, not in money, but in the form of fixed investments in water powers, pulp mills, paper mills and timber lands. If it had not done this it could not have continued successfully in business in competition with other larger and growing concerns and it could not have in its employ at this time the thousands of men who are on its payrolls. The owners of these properties are of course the stockholders and their ownership is represented by the certificates of stock which they hold.

"After the distribution of the new stock each shareholder will have four shares for every one share that he held before. These shares will be worth and probably will sell for about $100 each instead of $400 a share at which the stock has been quoted. Stockholders get no new value, in fact, but get certificates which more nearly represent the value they already have. It is like exchanging a four hundred dollar bill for four bills of one hundred dollars denomination.

"Nevertheless the stockholders are to be congratulated upon this action as representing the very handsome increase in the value of their holdings which has been gained since the company started the building of its first mill twenty years ago."

To Represent D. S. Walton & Co. in Ohio

CLEVELAND, Ohio, January 2, 1922.—Edgar B. Flack Company with headquarters in the Perry Payne Building has been appointed sales agent in the Ohio territory for the high grade toilet papers of D. S. Walton & Co., of New York.

Kraft as a Printing Paper

BY W. H. SHERRIFF OF THE HODGE-SHERRIFF PAPER CO., TORONTO, ONT.

Ten years ago most printers would have ridiculed the suggestion that kraft paper could be used for art printing. In fact, few printers knew what the word kraft meant and those who did classed it as a wrapping paper pure and simple and one not to be placed on the same high pedestal as the art papers then in use for various attractive printing jobs.

But times and manners change and since 1912 kraft paper has become known the world over as a paper that can be adapted to many and varied uses. The strides that have been made by this paper in connection with printing are nothing short of marvelous, in fact it is no exaggeration to say that in the short space of eight or nine years kraft has developed into a veritable art paper.

While the majority of printers are at present ignorant of its high qualities, there are not a few of the more important and progressive members of the craft who are ever on the alert for something new and novel, who have produced, with unqualified success, circulars, prospectuses, company reports, that call for something in the way of originality, booklets, brochures and many other artistic productions in colors. In fact, judging from some of the work that has been turned out, it would appear that there is no end to the possibilities of kraft for commercial printing.

It is specially adaptable for color work and, owing to its rich brown tone, brown inks especially can be used with telling effect. It stimulates the imagination and creative faculties of the designer and compositor and assists them to produce work that is bound to command attention and admiration. It lends itself to designs of brilliant coloring with as much readiness as to combinations of quiet colors and as a paper for advertising purposes it has few equals.

Two of the principal features of this paper are its rich, attractive appearance and its wonderful strength which is an important point in connection with booklets, cover papers and other work where constant handling is the rule.

Special attention is paid to kraft required for special purposes such as envelopes, cover papers, calendars, booklets and other work which requires exceptional care where the question of high class printing is involved. Large quantities of this paper have been exported to Overseas Dominions for letter press printing and in one case an important shipment was used by the Government of one of the Overseas Dominions, with considerable success, for census forms.

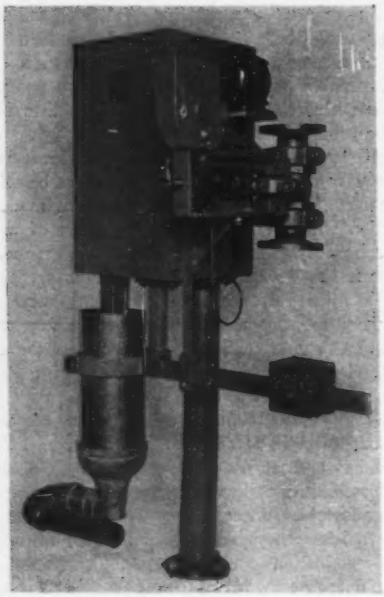
Kraft paper for printing receives more care during the process of manufacture than is the case with the ordinary wrapping paper sheet and it is sorted and finished in the same manner and with as much care as in the case of higher class printing papers.

There is no doubt that the adaptability of this paper to various uses is becoming more apparent day by day and the progressive printer, whose mind is open to the reception of new ideas, who is awake to new opportunities and who is not a slave to tradition, will in due course reap the reward of his foresight.

May Add Paper Expert to Tariff Commission

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., January 3, 1922.—It is probable that a paper expert will be added to the staff of the United States Tariff Commission in the very near future. The addition of a paper man to the Tariff Commission staff is contingent upon an appropriation which has been asked of Congress by the Tariff Commission for the present fiscal year ending June 30, 1923, amounting to $250,000. This additional appropriation is needed because of the new work devolving upon the commission through the passage of the present tariff law. Officials of the Tariff Commission believe that Congress will give them this additional sum.



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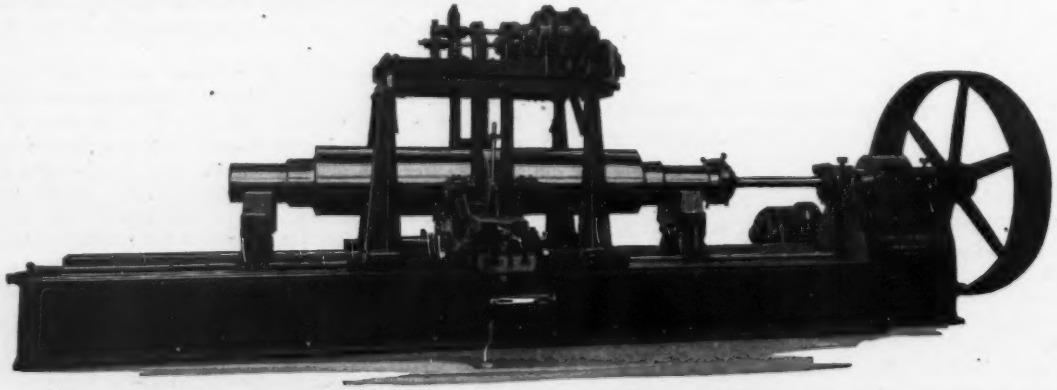
ROLL GRINDERS are the only machines of the kind fitted with automatic crowning device which develops a perfect crown without the use of a guide or former and repeated trying for the correct setting.



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Section of the
Technical Association of the Pulp and Paper Industry

AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Conducted by W.G.MacNAUGHTON, Secretary

THE ACTION OF THE BEATER IN PAPERMAKING*

With Special Reference to the Theory of the Fibrage and Its Application to Old and New Problems of Beater Design

By Dr. Sigurd Smith

(Concluded from last week)

Circulation

As already explained, thick furnish and rapid circulation are essential to the perfect beating of chemical wood pulp. It is not easy to make a thick furnish circulate rapidly, but a great deal can be effected by devoting attention to the design and construction of every part of the trough, viz., bottom, walls, backfall, hood and the approach to the roll (front rise). The requirements in this connection not being generally known are, therefore, frequently neglected. As a result, either too much power is consumed or else the circulation is too slow and the beating bad. The whole of the factors involved have been investigated, but time will only permit me to describe the main results of my investigations.

"Spitting"

The retarding effect of spitting on circulation can best be seen from the experimental results given in the following table:

Consistency per cent	Circulation in litres per sec.	Spitting in litres per second	Total quantity transported by the roll per second
5.1	67	approx. 2	approx. 70 litres.
5.25	23	10.15	approx. 35 litres.
5.85	12	10.15	approx. 25 litres.

In a beater working with 5.1 per cent consistency, the stuff was ejected in a proper manner over the crown of the backfall, and there was very little spitting (only 2 litres per second). The circulation in the beater was 67 litres per second, and the roll, therefore, handled in all roughly 70 litres of stuff per second, which was sufficient for the formation of the fibrage. On the consistency then being increased to 5.25 per cent, the depth of stuff in the front of the roll diminished slightly, but caused the cell content to decrease so much as to render it impossible for the stuff in the clearance space to be carried away, and heavy spitting took place (10 to 15 litres per second). This spitting produced so great a resistance to the flow of stuff in the trough as to reduce it to 23 litres per second, the roll thus handling in all only 35 litres of stuff per second, a quantity quite insufficient for the proper formation of fibrage. At the still higher consistency of 5.85 per cent, the quantity of stuff transported by the roll was further diminished owing to the lower depth of stuff in front of the roll, and the beating conditions deteriorated still further.

The Bedplate

It follows from what has been said that the action of the bedplate consists largely in abrading the fibrage carried by the edges of the fly bars. Thus it is useless to increase the number of bedplate bars beyond a certain limit. The width of the bedplate should not be greater than is necessary under the given roll pressure to abrade the fibrage.

The view is often held, especially by theorists, that the output of a beater increases with the width of the bedplate or with the number of bedplate bars. This view is opposed by those occupied with beating in the mill, because experience shows that, for example, doubling the width of the bedplate does not increase the output at all.

Experiments of this kind have been carried out by Messrs. Ward and Greenhalgh, whose results were communicated to a meeting in Manchester in December, 1921, of the Technical Section of the British Papermakers' Association. Both these gentlemen found that a considerable alteration in the width of the bedplate produced no effect on the quality of the sheet or on the beating time. Beater designs embodying a large number of bedplate bars, in some cases even extending up to the crown of the backfall, have not proved satisfactory; and the general practice is still to use the old well-known type of bedplate of moderate width and a moderate number of bars. Practical men have long ago discovered by experience the shape, thickness and number of bedplate bars necessary to abrade the fibrages, although it has not been understood why increasing the width of the bedplate should be useless.

There is only way in which the output of the beater can be increased by increasing the number of bedplate bars. To effect this, provision must be made for the formation of fresh fibrages on the edges of the fly bars at one or more spots between the bedplate bars. Experiments formerly made in this direction, in which it was endeavored to introduce fresh stuff between the bedplate bars, failed. I shall later describe a new design which has successfully overcome this difficulty.

*Read before the Royal Society of Arts, London, England, Nov. 15, 1922.

The Output of the Beater

It is now easy to lay down a basis for calculating the output of the beater. It is clear that the output must be proportional to the aggregate length of fibrage carried over the bedplate per minute. The output, therefore, increases in direct proportion with the number of fly bars and their length and with the number of revolutions per minute of the roll. The product of these three factors, termed the "roll value," affords a measure of the output capacity of the beater. The number of bedplate bars naturally does not enter into an expression for the output capacity of the beater, but it is assumed that there are sufficient bedplate bars to abrade the fibrages.

In connection with beating chemical wood pulp it must, in addition, be assumed that the beater is so designed as to permit each fly bar to collect the maximum sized fibrage possible. This involves not only rapid circulation, but also the necessity of spacing the fly bars sufficiently widely apart. This latter requirement is frequently neglected, especially where the bars are fitted in clumps of three or four, giving one large gap or cell followed by two or three smaller ones and so on. If the circulation is just sufficient to furnish an adequate fibrage on the bar following a wide cell, then a small cell will contain too little stuff for the formation of a fibrage. Such a beater, therefore, would not possess as much output capacity as might be expected, unless extra rapid circulation can be secured. In beating rags, on the other hand, the Travel Condition need not be fulfilled.

It would be possible to increase the output capacity of a roll by modifying the bedplate if one were able to provide the edge of the fly bars with fresh fibrages as soon as the original ones are abraded. The second fibrages would be beaten against a second bedplate and so on. The output capacity of the roll would be increased twofold, threefold or multifold, by beating in this way with two, three, or a correspondingly large number of bedplates.

Power Consumption

We shall now proceed to consider the power consumption of a beater and to examine what proportion is utilized effectively and what proportion wasted.

Regarded as a machine, the beater is extremely uneconomical. Barely half the power consumed is utilized in beating; in fact, frequently only ⅓ to ⅕ of the total power consumption is absorbed in beating between the roll and the bedplate. The remaining power may be looked upon chiefly as wasted on (1) friction losses in the shaft bearings; (2) losses due to the whipping of the fly bars partly against the stuff which enters the cells and partly against the stuff which is carried and eddied between the roll and the hood; (3) losses resulting from the friction of the stuff revolving with the roll against the stuff in the trough and in the clearance space between roll and backfall. The loss of power due to these causes is approximately equal to the power consumption of the beater when the roll is raised, that is to say, when the roll is only whipping the stuff without touching the bedplate.

The power consumed in whipping contributes to a very slight extent towards the softening (hydration) of the stuff. Experiments have shown that it is much more expensive to achieve a given degree of wetness by whipping than by beating the stuff between the roll and the bedplate. All the investigations dealt within this paper refer primarily to conditions in which actual beating takes place between the roll and the bedplate, as, for instance, in mills making better class and fine papers. The power that is not consumed in beating between the roll and the bedplate may, therefore, be regarded as a loss which should be minimized to the greatest possible extent. (In mills making wrappings, news and similar sheets which are run over the machines at high speeds, freer-stuff is required and for such sheets the wetness produced by whipping alone may assume a certain amount of importance).

If the beater is direct motor driven the total power consumption can be measured when the roll is actually beating. If one subtracts from this figure the power consumed when the roll is raised, the difference will give the power absorbed in the actual beating between the roll and bedplate, or, in other words, the effective power consumption. A large number of measurements of this kind have been carried out, from which may be seen what percentage of the total power consumption can, as a rule, be termed effective:

BEATING CHEMICAL WOOD PULP

		Mean of tests	Consistency. per cent.	Percentage of power used effectively. per cent.
Hoffsummer Beater / Ordinary Beater	Author's tests	11		43
		4	6	35
Arnold Rehn's tests		7	5.73	31
Kirchner*		1	5.23	31
		1	6.10	19
	Average	...	...	32

*Wochenblatt fur Papierfabrikation, 1918, p. 1022, tests Nos. I. and II.

BEATING RAGS

		Mean of tests	Consistency. per cent.	Percentage of power used effectively. per cent.
Hoffsummer Beater / Ordinary Beater	Author's tests	7		50
		5	6.1	35
Arnold Rehn's tests		4	5.5	42
Kirchner*		1	5.0	73
		1	5.77	56
	Average	...	...	51

*Id. tests Nos. III. and IV.

From these tables it will be observed that in beating chemical wood pulp only one-third of the total power consumption can be regarded as effective, whereas, in beating rags half is effective. Similar views have been expressed by Professor Pfarr, who maintains that in the ordinary hollander 40 per cent of the power is wasted. Arnold Rehn has also recorded that the power consumed in circulating the stuff frequently amounts to more than 50 per cent of the total power consumption of the beater. At the annual meeting in 1921, of the Canadian Pulp and Paper Association, Mr. Campbell expressed the same opinion, saying, "Whether the stock is wanted long or short, slow or free, the beater can produce it. Inefficiently, it is true, but if properly handled it does produce the desired product. This is unquestioned. That the beater is inefficient is almost equally unquestioned."

Whatever kind of beater is employed, it is probable that the energy expended on the actual work of beating each hundredweight of dry stuff will be the same, to produce the same quality of finished sheet. Every investigation points to the conclusion that the energy absorbed in the actual beating is the same per hundredweight of stuff, irrespective of whether the beater is run for a long time at a low horsepower consumption or whether the beating is effected quickly with high horsepower consumption, always provided that the Travel Condition is fulfilled and the bedplate is not entirely wrongly designed. It seems natural that the amount of energy consumed in a given beating process should, under these conditions, be quite independent of the beating tackle and of the type of beater employed. In trying to improve the efficiency of the beater no saving is to be looked for in the energy consumed in the actual work of beating between the roll and the bedplate. Economy should be sought in diminishing the losses due to whipping and friction. Any saving in power must be effected either by reducing the ineffective power consumption, or by increasing the effective power consumption and so increasing the output, or by a combination of these two methods.

The Duplex Beater

I will now describe a new type of beater the design of which is based on the considerations already discussed, and I will explain the advantages which this beater possesses.

The beater is provided with two bedplates located under the roll and separated from one another by a wide gap or chamber. While the fly bars are passing over this gap, they gather on their forward edges a fresh fibrage which is abraded against the second bedplate. Provision is made for replacing both bedplates by a single bedplate to be located under the centre of the roll for experimental purposes. Numerous trials have confirmed that with the two bedplates in use, the beating can be carried out in half the time required with a single bedplate to produce a sheet of the same strength and appearance. It follows that the beating effect of the second bedplate is quantitatively and qualitatively equivalent to that of the first.

For the purpose of forming a fresh fibrage on the fly bars, various devices may be used which all have the object of imparting a radial motion to the stuff transversely across the edges of the fly bars. This motion enables the fly bars to pick up a portion of the passing fibres in such a way as to form a fibrage. The radial motion of the stuff is produced by the oscillation of a rubber membrane, which forms the bottom of the chamber between the bedplates. It is actuated downwardly by an eccentric and rod and upwardly by springs.

Later trials have shown that this complicated construction is not always necessary. A fibrage can, under some conditions, be produced by simpler means so long as a uniform radial motion of the stuff is secured. The simplest method of achieving this is to make the bottom of the chamber between the two bedplates lower than the top of the packing between the bedplate bars. The bottom of the chamber then serves as a guiding surface for the stuff carried along by the roll cells. Under the influence of the centrifugal force, this stuff is flung against the bottom, slides along the latter in the direction of motion of the fly bars, and finally re-enters the cells to form a fibrage. Beating thus re-commences *de novo* on the second bedplate.

Beaters built on this principle are called Duplex Beaters, because they beat on two bedplates and it will be seen that the use of the duplex arrangement doubles the beating effect of a given beater roll and, therefore, following our previous argument, results in an important saving of power.

With the aid of an example, we will now estimate the saving of power effected by the Duplex Beater, when treating rags and chemical wood pulp, respectively.

1. Rags.

It will be assumed that a beater beating rags with a single bedplate and a furnish of 200 kilos takes 40 h. p. with a beating time of 6 hours. It has previously been shown that only half this power, *i. e.* 20 h. p., is consumed in the actual beating, while the remaining 20 h. p. are absorbed by the rotation of the roll in the stuff.

A Duplex Beater of the same size will only require 3 hours for beating, but will absorb 2 by 20 = 40 h. p. for the actual beating work.

In beating 200 kilos of rag in the *single bedplate beater* the energy consumption is, therefore, made up as follows:

For actual beating 6 x 20 equals .....120 h.p. hours
For revolving the roll in the stuff, 6 x 20 equals....120 h.p. hours

Output 200 kilos in 6 hours.
Energy consumed .....240 h.p. hours

In beating 200 kilos of rags in the Duplex Beater the energy consumption is made up as follows:

For actual beating 3 x 4 equals .....120 h.p. hours
For revolving the roll in the stuff, 3 x 20 equals....60 h.p. hours

Output 200 kilos in 3 hours.
Energy consumed .....180 h.p. hours

The Duplex Beater, therefore, gives double the output of the ordinary beater and at the same time saves 25 per cent in power when handling rags.

2. Chemical Wood Pulp

It will be assumed that the same beater requires 30 h.p. to beat chemical wood pulp in four hours. It has previously been shown that two-thirds of this power, *i. e.*, 20 h.p., are lost in beating chemical wood pulp, only 10 h.p. remaining available for the actual work of beating. A Duplex Beater of the same size will only take two hours to produce the same effect, but will use 2 x 10 = 20 h.p. for the actual beating.

In beating 200 kilograms of chemical wood pulp in the single bedplate beater the energy consumption is, therefore, made up as follows:

For actual beating 4 x 10 equals .....40 h.p. hours
For revolving the roll in the stuff, 4 x 20 equals....80 h.p. hours

Output 200 kilos in 4 hours.
Energy consumed .....120 h.p. hours

In beating 200 kilos of chemical wood pulp in the Duplex Beater the energy consumption is made up as follows:

For actual beating 2 x 20 equals .....40 h.p. hours
For revolving the roll in the stuff 2 x 20 equals .....40 h.p. hours

Output 200 kilos in 2 hours.
Energy consumption .....80 h.p. hours

The Duplex Beater, therefore gives double the output of an ordinary beater and at the same time saves 33 per cent in power when handling chemical wood pulp.

The numerical examples just shown are of general application and are based on the numerous measurements of the distribution of power consumption in the beater, which have already been referred to. In point of fact, the Duplex Beater will under certain conditions effect a saving of up to 40 per cent in the power consumption as measured at the beater pulley.

Conclusion

You will readily understand that the extensive theoretical work which forms the basis of this lecture has been developed from a very large collection of experimental data. The theoretical investigations extended over a period of 5½ years, during which time numerous experiments of various descriptions have been carried out. Unfortunately it is necessary to carry out beater experiments in the mill and not in the laboratory. They interfere considerably with the work of the mill and call for a good deal of interest and attentive care on the part of the management. Technological research is therefore indebted to no small extent to the men who have been at pains to interest themselves in the experimental work necessary to such a fundamental treatment of the problem. In this connection I would specially mention the name of my friend and colleague, Mr. Godske Nielsen, director of the Silkeborg Paper Mill, on whose initiative of the beating problem has been subjected to such thorough investigation.

During the years of experiment I have enjoyed the assistance of a changing staff of engineers and it would not have been possible to carry out these investigations in Denmark had there not been available a staff of engineers thoroughly trained in the fundamental sciences of physics and mathematics. If it has been accorded to Danish engineers to penetrate to the core of this difficult problem, one of the chief reasons is that our Polytechnic Institute provides such excellent training and inculcates a real understand-

ing of the fundamental and technical sciences. In a small country like Denmark there is not the rich field for engineering activity and initiative which exists in a country like England with her great natural resources and extensive Colonies. In order to hold our own against world wide competition we must therefore direct our energies towards producing work of the highest standard. I hope that the work which I have described and which has been carried out by Danish engineers will prove to have achieved this high standard.

DISCUSSION

Following the reading at the Royal Society of Arts of Dr. Sigurd Smith's paper, there was an interesting discussion. The chairman of the meeting (Capt. W. E. Nuttall) introduced the lecture with some appropriate observations on the importance of the beating operation. He was imbued with the conviction that there was nothing before the papermaking industry which was of greater importance as investigations into the subject of the beating of papermaking fibers. The Technical Section of the Papermakers' Association had had to consider into what field they should enter in order to carry out research which would most benefit the industry as a whole, and the section had deliberately chosen the operation of beating as the one which was of prime importance. They were particularly fortunate in having Dr. Sigurd Smith with them that evening, because he had already achieved international fame by reason of his investigations into that very technical and involved problem. Beating was a subject which, the more they looked into it, the more mysterious it became and the greater were the difficulties revealed. Dr. Sigurd Smith had for many years investigated that intricate matter with courage, with originality and with ingenuity. He (Capt. Nuttall) thought he was right in saying that, in its present state, beating, at all events in this country, was more of an art than a science. In saying that he did not wish to disparage in any way the splendid works managers and the splendid workmen who carried out this operation for them; but if they could add to that art the science which came from knowledge and from investigation and which would really make them understand what took place in the process of beating, then he thought they would have achieved something.

At the conclusion of Dr. Sigurd Smith's dissertation, the chairman observed that Dr. Sigurd Smith had indicated all kinds of avenues and vistas which had yet to be explored in relation to the beating problem. Referring to the concluding remarks in the address, Capt. Nuttall thought Dr. Sigurd Smith had been too modest. He thought that Denmark had set an example which we in this country might very well follow. The lecturer had given them a practical illustration of the sermon which he (Capt. Nuttall) was always preaching, namely, that the one salvation for the paper industry in this country was to meet the competition which came so fiercely from abroad by means of technical knowledge and technical superiority. He would like Dr. Sigurd Smith to inform them what percentage of the fibers in the fibrage were cut, and whether that percentage could be increased, and if so, how. Again, what was the shortest length of fiber which would retain its position on the edge of the bar as part of the fibrage and what would be the best dimensions for the clearance space between the roll and the backfall. Further, he would like to know why there was a greater percentage of power used effectively in beating rags as compared with wood pulp. Finally, was there any advantage in having more than two bedplates? The idea of the Duplex Beater apparently showed a distant advantage with two bedplates and he would like to know how far it was possible to carry that idea.

Mr. C. F. Cross described that as a memorable occasion. He had known of Dr. Sigurd Smith's work for some years; he had studied his text book, and he was satisfied that he had made a very strong frontal attack upon a highly complex operation. They need no longer be afraid of going for the beater for all they were worth, and with what mental equipment they might possess. In this theory of fibrage Dr. Sigurd Smith, with much thought and work, had put forward with a great deal of prominence what he regarded as the essential factors of the beating process. Critical students as were those present, they would, no doubt, have something to say on the subject. They desired to congratulate Dr. Sigurd Smith on his extraordinary persistency in research work and upon the fruits attained. In his excellent exposition, the lecturer had given them something to arouse attention and something satisfactory to think about. He (Mr. Cross) must also congratulate the Royal Society of Arts in once more showing its catholic appreciation of all technical science and giving Dr. Sigurd Smith a worthy first hearing and an opportunity of expounding his subject, not in the forefront of the papermakers in a sense, but by reason of its general value. For himself he had three points to put forward. In the first place, he had not appreciated the inner mechanism by which Dr. Sigurd Smith was going to reconstitute the second fibrage on a flybar within the space between the two plates and the mechanism by which this was achieved in the very brief interval of time available. He had not formed a mental picture of what was going to happen in the way described. In the second place, alternative methods were suggested of producing the self-same results, probably by physical agencies. In certain developments which he had been studying lately, he (Mr. Cross) had the impression that the actual physical point involved was the intensification of the beating effect. In the third place, Dr. Sigurd Smith did not say much about hydration. They were all hydrationists now. There were two ways of performing that operation. They could do it chemically and effectively, and the question was how far the beater became superfluous or dispensable altogether. Could they put together a sheet of paper from properly selected stuff, treating it chemically, and producing the physical effect known as hydration? He (Mr. Cross) made his observations as comments, and not as criticisms. They did not, however, want to give Dr. Sigurd Smith the impression that they could take such an exposition as he had given them without criticism and as having been proved. He was pleased to have the pleasure of attending that meeting and shaking hands with Dr. Smith and his collaborator (Mr. Nielsen).

Mr. Bacon recalled the chairman's observation that the works managers and the beatermen had "produced the goods," but how they had done so they had not known. For some years now, however, the works managers had felt the need of some little technical and scientific knowledge, whereby they could tell how they could produce these goods and the best way of producing them, and they required a scientific method of getting results. The speaker was much interested in the section of the paper dealing with the "stuff travel condition" and with that excellent little term "cell content." But Dr. Sigurd Smith had not given them the lineal dimensions of the flybar. That was rather interesting, because one would think theoretically, apart from all practical considerations, that if they could so increase the cells and also the number of bars, they would thus get a beater which would produce the stuff in a quarter of the time that was now taken. For instance, if Dr. Sigurd Smith had been using a 10 millimetre edge and they were to reduce it to a 4 millimetre edge, and if in addition they deepened the length of the bar between the roll and the face of the edge, then they might get almost an extraordinary beater. Of course, mechanically it would fail, inasmuch as, if they had very thin bars, they would rapidly wear away. Again, with regard to frictional loss, it would be interesting to know, as the chairman had said, the optimum space between the roll and the backfall before the stuff went over the backfall. No doubt, though the loss in power, due to friction at this stage is more, nevertheless to his mind it was more than compensated for by the fact that when they had a small clearance they would have a better circulation. It was well known that where they had a big clearance their beater circulation fell. Proceeding, Mr. Bacon said the interesting thing with regard to the Duplex Beater was the formation of the fibrage. It seemed to him that in any motion whereby they could get vortices

they were creating essentials for the formation of this fibrage on the bars, and Mr. Bacon asked Dr. Smith if he had tried the effect of passing compressed air through the stuff.

Mr. R. J. Marx thought it was a pity in experimental work of the kind undertaken by Dr. Sigurd Smith they did not have a standard beater, because with a variety of beaters they obtained different results. Dr. Sigurd Smith had not given them his limits as to stuff consistency, and it seemed difficult to reconcile the fibrage idea with some of his observations. The speaker asked what difference it would make if they used stone rolls instead of steel or bronze bars. With stone rolls they got an enormous amount of hydration, but they could only get a limited amount of fibrage. Yet such stone rolls were considered highly effective. With regard to effective power consumption, Mr. Marx observed that with a certain type of beater the power consumption with the roll down was not much higher than when the roll was up. In that particular beater only high consistencies were used, in some cases up to 20 per cent, but never lower than 8 per cent.

Mr. J. Melrose Arnot thought they must all be agreed, whether they approved of the theory of the formation of this fibrage or not, that Dr. Sigurd Smith had shown them the right way to tackle a subject of this kind. He wished to confirm the fact that if they could introduce a fresh supply of stuff between the two bedplates they would get a larger beating effect. When he (the speaker) was in Germany he designed a beater which he called the centrifugal beater, because the bedplates were around the roll in the form of a continuous plate. By means of this continuous beater, they were able to produce effects not in hours, but in minutes. Mr. Arnot thought he would not have had the chance of making this experiment but for the readiness of the Germans to adopt any idea that appeared to be the least bit feasible. He had wanted to show by this device that it was possible to get the stuff between each bedplate and to produce a more intensified beating effect.

Mr. J. Huebner (Manchester School of Technology) looked at this matter from the point of view of the chemist. The mechanical side of the question seemed to him to have been so thoroughly investigated by Dr. Sigurd Smith that they could only hope that the chemical aspect or so called hydration in the beater would be investigated in as thorough a manner.

If that were done, he was sure that they would get results which would be of the utmost value in explaining the beating operation more fully.

Answers to Questions

Replying to questions put by the chairman through Mr. Moller, who interpreted in English, Dr. Sigurd Smith, referring to the percentage of fibers in the fibrage that were cut, said his calculations led him to think 1 per cent or 2 per cent only were cut. They could increase the roll pressure and thereby achieve a greater percentage of cutting. As long as the rolls were cutting, the fibrages would be formed. When the stuff had passed the bedplate, the cells would be gradually filled up, and there would be a certain amount of friction between the stuff in the cells and the clearance. They would be able to calculate the amount of stuff and the feed so that they could make the clearance so small that the speed which they would attain at a certain point would be sufficient to cause a fountain. The reason there was a greater percentage of power used effectively in beating rags as against beating wood pulp was because when they were beating rags they were beating with a harder pressure and consequently the beaters would consume more power for the actual beating. This was a matter of experience. There would be an advantage in having more than two bedplates, but he had never tried three, and could only speak about the two that he had used. Were it possible to put a third bedplate under the roll he thought it would be a good thing.

In answer to Mr. Bacon, as to whether it was possible to increase the cell content by making the flybars thinner and deepening the cells, Dr. Sigurd Smith said it would not be of any use in the majority of cases. They could not get more than a certain percentage of fibrage. The maximum effect was attained when the content of the cell was about eight times that required for forming the fibrage. As to how he could ensure that the two bedplates remained concentric with the roll and how the distance between the roll and the bedplate bars was kept constant during the beating, Dr. Sigurd Smith said the first bedplate was put in in the ordinary way and the second was kept adjusted by means of a wedge.

Coming to Mr. Marx's query as to the influence of the consistency on the theory of fibrage, the lecturer said he had only had occasion to experiment with a consistency ranging from about 5 to 6 per cent or a little under 5 per cent. So he had really no experience of the high consistencies to which Mr. Marx referred. Experiments with a steel rod had been carried out up to 8 per cent consistency, and it was shown by these experiments that the size of the fibrage increased enormously with the consistency. With reference to stone rolls, the lecturer said these were made of basalt or volcanic stone and they were really porous. The porous parts were, so to speak, cells and the harder parts of the stone formed sharp edges on which the fibers could be collected. So actually they got the same effect.

Crane & Co. Incorporate

[FROM OUR REGULAR CORRESPONDENT.]

PITTSFIELD, Mass., January 2, 1923.—For the first time in the history of the Crane family of Dalton which started in the paper mill business in 1801 the members of the family have become incorporated under the laws of Massachusetts. The new firm, Crane & Co., Inc., is to take over the Government and Pioneer Mills at Dalton and the mill at Westfield where the Government note and bond papers are made.

The capitalization of the new company is set at $3,000,000, consisting of 30,000 shares of common stock, par value $100. The temporary incorporators are Reuben Pierce, president; Payson E. Little, treasurer; and Frederick G. Crane Jr., of Dalton and Atty. James F. Bacon of Boston, each of whom holds three shares. Pierce and Little are high executive officers in the concern.

In the past all of the vast paper manufacturing interests of the Cranes have been on the partnership basis. Frederick G. Crane, head of the Crane family, gave as the dominant reason for the change the statement that under the existing laws it was much easier to do business as a corporation than as a partnership, the death of a partner making a complicated situation in a partnership. Permanent officers in the new corporation will be elected Tuesday, January 2.

H. S. Lewis Reappointed to Black River Board

[FROM OUR REGULAR CORRESPONDENT.]

WATERTOWN, N. Y., January 2, 1923.—Harry S. Lewis of Beaver Falls, president and general manager of the J. P. Lewis Company, Inc., was reappointed by Governor N. L. Miller as a member of The Board of the Black River Regulating District. He was placed on the board several months ago to fill the vacancy caused by the death of James A. Augsbury. He is one of the large power owners in the district.

St. Regis to Expand Directorate

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., January 2, 1923.—The stockholders of the St. Regis Paper Company will hold a special meeting at 10:30 on the morning of January 10, in the local offices of the company to pass upon the proposition of increasing the number of directors from nine to 14. The reasons for the proposed expansion of the directorate are not announced.

THE WOODSOME SYSTEM FOR PAPER DRYING

R. L. Weldon in a recent number of the *Pulp and Paper Magazine* writes as follows:

"The most important use of steam in the paper mill is that of drying paper. This problem of steam in connection with the drying of paper has become of increasing importance in recent years due primarily to the rapidly rising costs of fuel, until today the percentage relationship of the cost of steam to the selling price of paper is probably higher than ever before."

Old fashioned wasteful methods of drying paper are fast going by the board. The market is full of paper drying systems which present such a bewildering array of claims that the manufacturer who is endeavoring to improve his mill conditions is at a complete loss to know how to sift out the wheat from the chaff in selecting his equipment. One system claims enormous increases in production, another claims to cut in two the usual steam pressures employed for drying paper, a third describes the remarkable steam velocities secured in the driers and its effect upon the quality of paper, and all claim superior steam economy.

It is the purpose of this pamphlet, first of all, to outline a basis for measuring the performance of all drying systems so that we may have as a starting point some common ground for comparison.

A Rational Basis for Determining Drying Efficiency

1. Quality of Product.

We believe that quality of product is of paramount importance. The manufacturer who has spent years in building up his business must be absolutely certain that the quality of the paper which bears his trade mark is always the same. Production may suffer during certain months of the year, steam economy may be sacrificed, but he must keep his product up to his usual standards of strength, it must be a smooth sheet free from cockles, and it must be of a definite, even moisture content.

The importance of even moisture content in the finished sheet can best be emphasized by a concrete example. Suppose a 150 ton mill is manufacturing a grade of paper which sells at 7 cents a pound. The ideal moisture content of this paper is 6 per cent, but because of poor drying conditions the average output contains only 4 per cent moisture. Such conditions are not unusual; to avoid dark streaks in the center of the sheet, the average moisture content is often far on the dry side of the ideal. The above conditions mean that the manufacturer is making a present of about $125,000 to his customers every year. A drying system which can maintain the moisture content within 1 per cent of the ideal reduces by at least one-half this very considerable loss which many manufacturers are called upon to face.

The drying system, then, which best meets all these requirements of quality of product has scored heavily in the final choice of equipment.

2. Drying Capacity.

Drying capacity is of next importance. In these days of keen competition the mill that can produce, bearing in mind what has been said previously concerning quality, is the mill which pays the biggest dividends on capital invested.

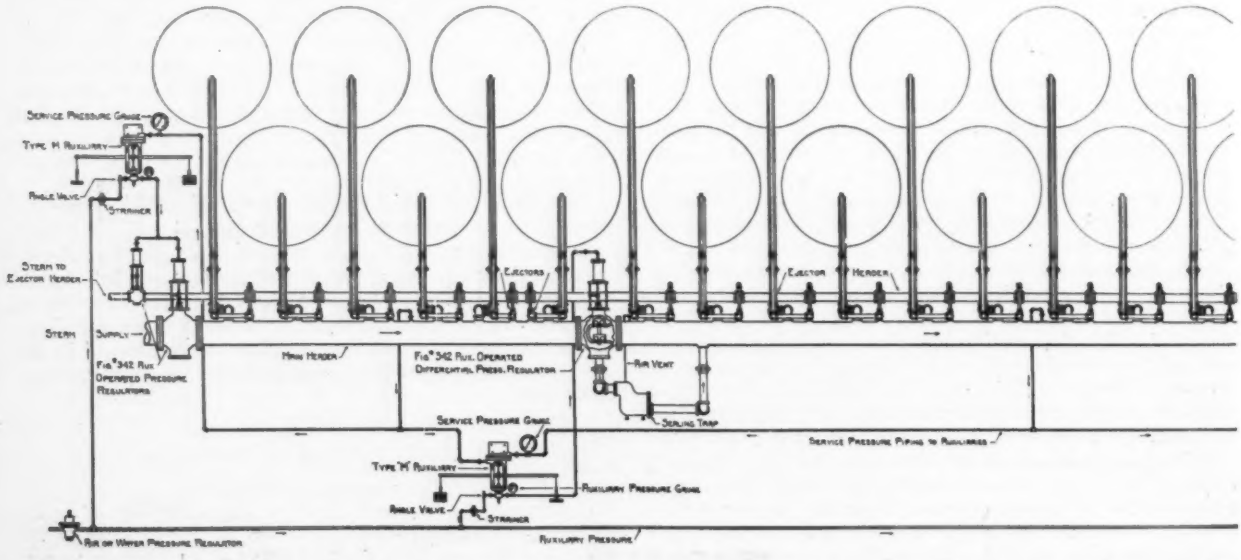
A drying system which can guarantee a definite increase in production in any particular case, which can point to bona fide increases in other mills (bearing in mind the type of drying equipment replaced), must receive serious consideration from paper makers.

3. Steam Economy.

Steam economy is an item just as important as the two previously mentioned. It is in connection with figures of steam usage in drying paper that the greatest confusion exists as to just what is good economy. One mill reports so many pounds of steam used per pound of paper made; another bases its economy figures on amount of paper dried per square foot of heating surface; still a third reports so many pounds of steam used per pound of water evaporated, and so on. This last method of stating steam economy is, to our mind, the best of the three mentioned, but the quality of the steam varies so in different mills that even then we have no sure basis for comparison; the steam may be exhaust from an engine or turbine and of low heat content or it may be live or superheated steam of high heat content.

As in stating boiler efficiencies, we believe that the basis for comparison should be the *ratio of heat input to heat recovered in useful work.* This requires a knowledge of:

(1) The amount, pressure and quality of steam delivered to



the driers and the amount and temperature of the condensate discharged from the system.

(2) The amount of water evaporated from the paper and the initial temperature of the wet sheet as delivered to the driers.

In the economical drying of paper there ar three items which are of major importance in choosing any drying system. They are:

(1) Positive and even removal of both condensation and air from all driers.

(2) Steady circulation of steam in the driers.

(3) Flexible and certain control of temperature graduation throughout the machine.

All modern drying systems aim to accomplish these three things and the degree to which they do so is a measure of the steam economy attainable for the specific type of equipment under consideration.

Besides the three important factors mentioned above there are several of minor importance, all of which affect the steam economy to some degree. These are:

(1) Ventilation of machine room.

(2) Climatic conditions such as temperature and humidity of the atmosphere.

(3) Grade of paper, freeness of stock, and weight of sheet.

(4) Area of effective drying surface in relation to the work to be done.

(5) Mechanical condition of machine, such as pipe insulation, tightness of stuffing boxes on driers, cleanliness of inside and outside heating surfaces, condition of suction boxes, wire, felts, etc.

The five items mentioned may be assumed to be fixed for any one mill, for the type of drying system chosen has but little bearing on any one of them.

4. DEPENDABILITY.

Dependability and freedom from repair costs are two desirable qualities, the importance of which all mill men will recognize. Papermakers in particular demand apparatus which shall be both fool-proof and long lived.

The foregoing remarks present in a brief manner what a modern paper-drying system is expected to accomplish and indicate a sane, rational basis for comparing the performance of various systems.

A model test sheet follows, which if used in conducting all tests on paper machines, will soon furnish a fund of valuable information for reference and purposes of comparison.

MODEL SHEET FOR PAPER MACHINE TESTS

General Data

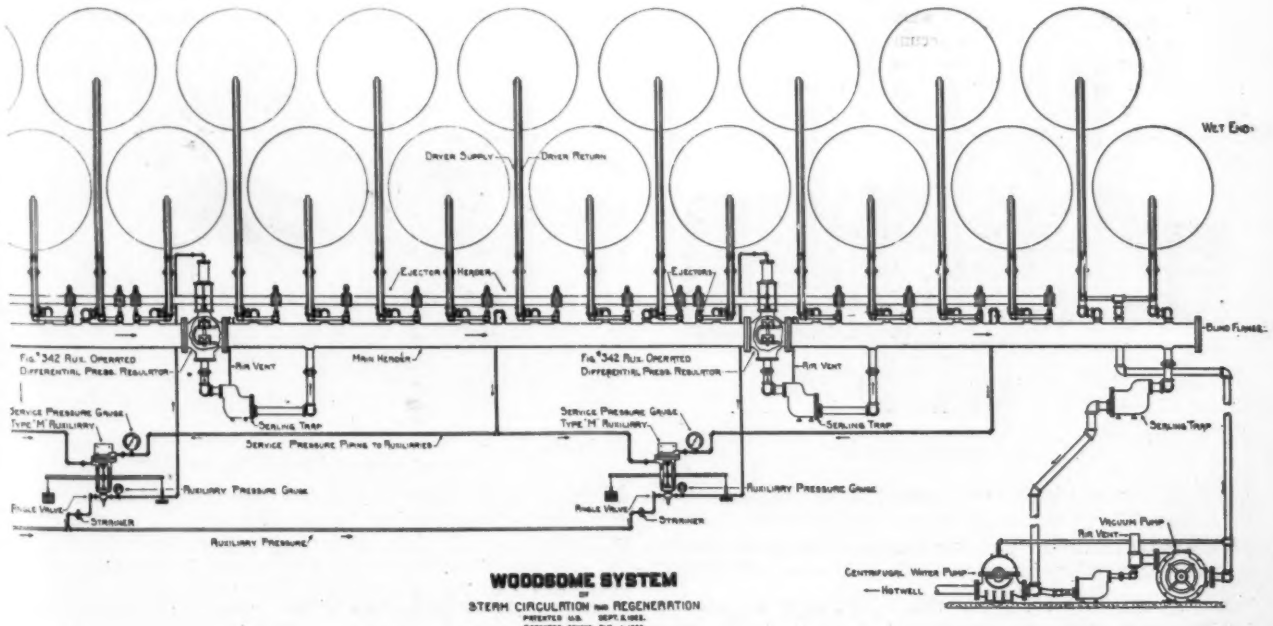
1. Date and place of test.
2. Type of machine tested, number and demensions of drying rolls.
3. Type of drying system with which machine is equipped.
4. Duration of test.
5. Horsepower required to drive machine (from indicator diagrams or electrical readings).
6. Outdoor temperature and description of atmospheric conditions.
7. Temperature and humidity of air in room near machine.
8. Temperature and humidity of air over drying rolls.
9. Temperatures of shower water, white water, and stock at consistency regulator.

Paper Data

10. Grade and basis weight of paper made.
11. Slowness of stock.
12. Average percentage bone dry stock delivered to driers.
13. Average percentage bone dry stock in finished paper.
14. Variation in moisture content across sheet, finished paper.
15. Variation in moisture content along sheet, finished paper.
16. Strength of paper, points per pound. (Mullen test).
17. Width of paper dried.
18. Speed of paper.
19. Production, pounds dried per hour.
20. Paper temperature going onto driers.
21. Paper temperature leaving driers.

Steam and Condensation Data

22. Temperature, pressure and quality of exhaust steam used. (If any.)
23. Temperature, pressure and quality of live steam used. (If any.)
24. Temperature, pressure and quality of mixture. (If both exhaust and live steam are used.)



25. Temperature and pressure of steam in various sections of machine.
26. Temperature of condensation from machine.
27. Average amount of condensation weighed or measured per hour.
28. Steam used per pound of paper dried.
29. Water evaporated per pound of paper dried.
30. Steam per pound of water evaporated.

Heat Balance

31. Total B. t. u. supplied per pound of paper dried.
32. B. t. u. recovered in condensation per pound of paper dried.
33. Net B. t. u. input to drying system.
34. B. t. u. required to heat up and evaporate water.
35. B. t. u. required to heat up paper stock.
36. Thermal efficiency of drying system.

$$= \frac{\text{Item 34 plus item 35}}{\text{Item 33}} \times 100\%$$

37. Radiation loss

= (100% minus item 36)

Keeping in mind the preliminary remarks concerning a proper basis for comparing performiances of all drying systems, let us now turn to a consideration of the Woodsome System for Paper Drying.*

Theory of Operation

We wish to particularly emphasize the simplicity of the piping layout of the Woodsome System. It is a single header system: steam supply and condensation are both handled in a single pipe which extends the whole length of the battery of driers. Steam enters the header at the dry-end of the machine, feeds every drier at a uniform rate by means of a simple circulating device, later described, the condensation from every drier discharges into the bottom of this main header, flows along to the wet end of the machine where it is steadily discharged by means of a small centrifugal pump to the hot well. Separate supply and return headers, bulky steam separators, and a battery of condensation return traps are eliminated.

A steady circulation of steam and a positive removal of condensation and entrained air is accomplished by means of a small steam ejector of standard type which is attached to the return pipe of each individual drier and which discharges into the main header as described above. The accumulation of air which occurs at the wet end of the main header is removed by a vacuum pump. This pump draws a mixture of hot vapor and air from the header through the first two driers on the wet end of the machine which serve as exceedingly effective condensers for all vapor carried

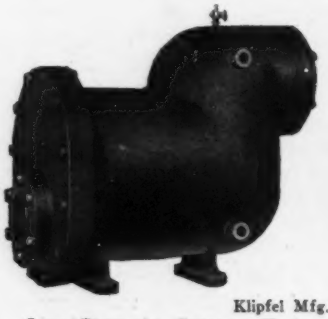
Penberthy Injector Co.
HIGH PRESSURE EJECTOR

over. Only air and what little condensation is formed in these last two driers reach the vacuum pump.

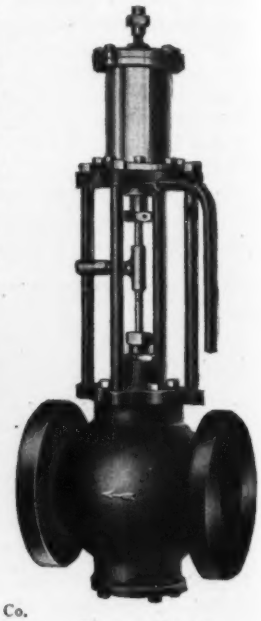
The steam ejectors serve a very important purpose other than the positive circulation of steam and removal of water and air from the driers. The ejectors are operated by a small amount of high pressure steam. Part of the energy in this steam is used in securing the desired circulation within the drier; the remaining heat energy of the expanded steam (highly superheated) serves to regenerate a portion of the condensation passing through the ejector and insures a desirable degree of dryness for the steam supply to the next drier.

This regeneration principle is carried still further by dividing the main header into sections for purposes of temperature graduation. As the condensation passes from one section to the next (which is at a lower pressure and temperature) part of it flashes into steam again, forming a portion of the steam for this following section.

It can be demonstrated that this regeneration principle alone



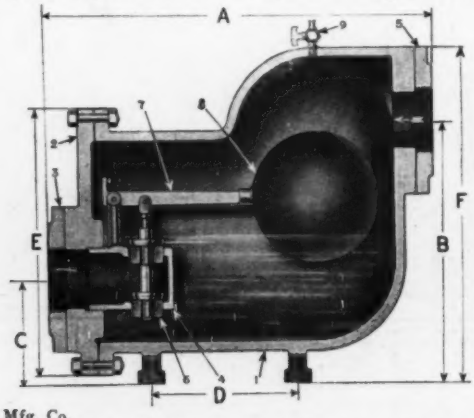
Klipfel Mfg. Co.
LOW PRESSURE SEALING TRAP



PISTON VALVE

effects savings of 14 to 15 per cent in steam consumption. With the Woodsome System no condensation is discarded from the machine until every available heat unit has been extracted from it and pressed into useful work in the drying of paper.

We have mentioned the fact that the header is divided into sections for purposes of temperature control. The number of sections required depends upon the temperature range desired. For



Klipfel Mfg. Co.
LOW PRESSURE SEALING TRAP (INTERNAL VIEW

instance, a 32-roll machine drying kraft paper is operating successfully with four sections; the dry end section requires about 7 to 10 pounds steam pressure and the wet end section varies from 5 to 10 inches of vacuum, the average pressure for the whole machine being 2 to 5 pounds. A large pulp drier (where low temperature drying is insisted on) is operating satisfactorily in one section which is kept at 3 to 10 inches of vacuum in all 96 drier

*Canadian Patent issued August 1, 1922. United States Patent Issued September 5, 1922. Differential Valves, Type M., Auxiliary and other patents pending. J. O. Woodsome & Co., 407 South Tallman Avenue, Chicago, Ill.

rolls. The desired temperature graduation in all cases, is maintained by means of Klipfel Manufacturing Company's piston operated valves between the sections which are controlled automatically by the existing pressures in the individual sections. Similar valves control the steam supply to the machine which may be exhaust steam, live steam or both. Water seals which by-pass these sectional valves allow the condensation to flow by gravity to the hot-water pump at the wet-end.

The details of the automatic control system will be more fully described later. Suffice it to say here that so sensitive is this control that when once set to maintain a desired pressure and temperature, the fluctuations in pressure never exceed ½ pound and are usually ¼ pound or less even during the wash-up period when no paper is being dried. This is a feature which appeals immediately to paper makers and also to the mill management for it means that paper is being dried and being dried properly from the moment that it is put over the driers after a shut down. No paper is spoiled due to driers being too cold or too hot.

Details of Mechanical Features

Ejectors

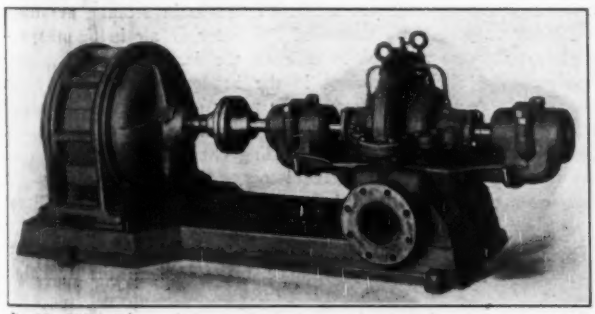
The ejectors are heavy brass, of standard pattern, supplied by the Penberthy Injector Company. They are equipped with a special design of nozzle and delivery tube developed for this particular work and have unusually high capacity with low steam consumption as shown by the following table for a ⅛ inch diameter nozzle.

Steam pressure to operate	Steam consumption pounds per hour	Capacity cu. ft. free air per min.
30 lb.	45	27
45 lb.	55	34
60 lb.	70	44
85 lb.	95	55

In special cases it is sometimes desirable to use a low pressure ejector on part of the machine when the supply of exhaust steam is ample for drying purposes and the proportion of high pressure auxiliary steam used must be kept very low. A table of capacities for this low pressure type of ejector equipped with a 13/32 inch diameter nozzle is as follows:

Steam pressure to operate	Steam consumption pounds per hour	Capacity cu. ft. free air per min.
2 lb.	160	47
5 lb.	200	57
10 lb.	253	63
15 lb.	312	71

At 85 pounds operating pressure the high pressure type of ejector is drawing approximately 3,300 cu. ft. of air, steam and water from



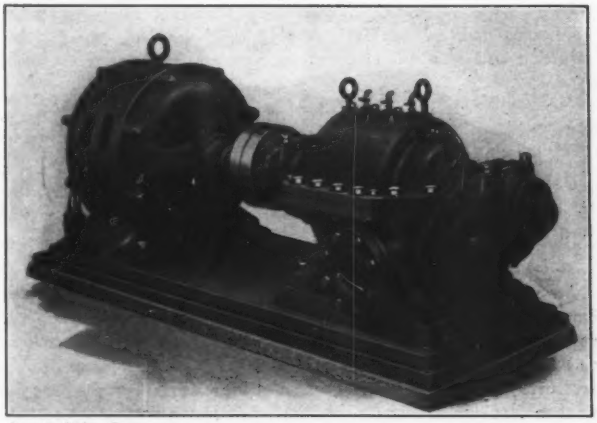
Goulds Mfg. Co.

SINGLE STAGE WATER PUMP

the drier per hour. This is about 50 per cent in excess of the steam condensed in the drier, assuming that the average drier uses in the neighborhood of 300 pounds per hour. (Steam at 2 lb. pressure occupies about 22 cu. ft. per lb.) Since the air entrained in steam is ordinarily only 1 per cent by volume and the volume of 33 pounds of condensate is negligible (5 cu. ft.), the ejector has ample capacity to sweep the inside heating surfaces of the drier free from air pockets and collecting condensation, both of which become excellent heat insulators if not promptly removed.

Piping

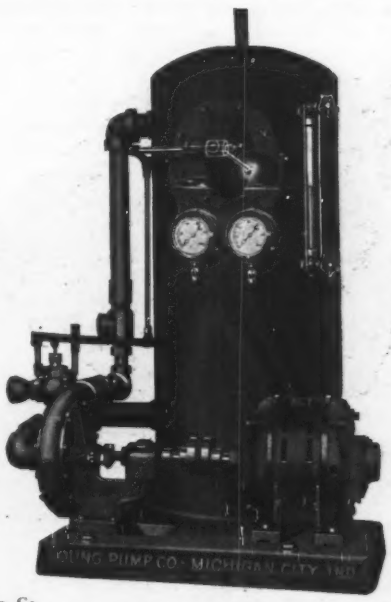
Main headers are of steel with necessary connections properly spaced and welded on. This type is lighter, stronger and tighter than a cast iron header, is neat looking and easy to cover with insulating material.



Goulds Mfg. Co.

TWO-STAGE WATER PUMP

We recommend piping practice which we believe will give the greatest satisfaction. This does not necessarily mean that all old piping must be torn out if the expense appears to be too great.



Young Pump Co.

YOUNG PUMP

In general, a change from the present system to the Woodsome System is usually a simple one to make. Some of the largest installations have required only a two day shut-down to make all necessary changes.

Piston Operated Valves

The valves used between the sections are of the balanced type,

TECHNICAL SECTION, PAGE 9

piston operated, spring opening and pressure closing. If for any reason one of them should fail to operate properly, the spring would hold the valve wide open and the machine could be operated with two sections thrown into one until such time as repairs could be made. Either water or air at 15 to 30 pound pressure will operate the pistons satisfactorily. These pistons are fitted with metallic rings much like an automobile piston and although close fitting they work very easily in the cylinders and respond instantly to any pressure changes.

The type of valve used to control the admission of high pressure (either as main or auxiliary supply) is of the same general construction and is also of the spring opening and pressure closing type.

Water Seals

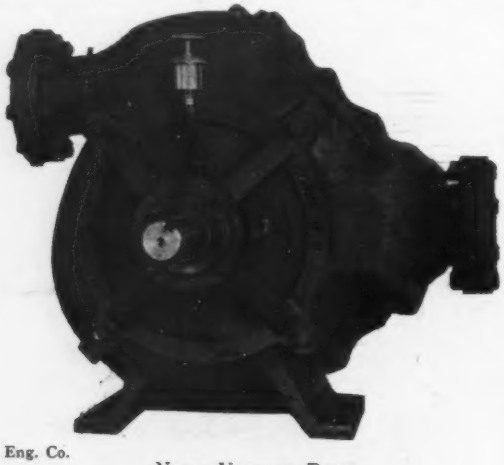
To do away with U-tube water legs required in sealing against possible pressure drops of several pounds between sections we use the simple type of low pressure trap illustrated. It functions simply as a compact water seal and allows the condensation to be passed from section to section as it collects in the header.

Water Pump

An ordinary one-stage or two-stage centrifugal pump of small size handles the condensation. A two-stage pump is sometimes required because of the unusual conditions imposed upon it; such as to handle water at 15 inches of vacuum, 190 ° F. and pump against pressures up to 60 pounds per square inch where returns may be used to feed the boilers. A 1½ inch single stage pump is of sufficient size for all ordinary installations, requiring 3 to 7 hp. to drive it.

Vacuum Pump

For small machines we furnish a water and vacuum pump combined in one unit as illustrated (Young Pump) and for larger machines we recommend a small size Nash or Root type of vacuum pump which may be individually driven or belted to the main drive



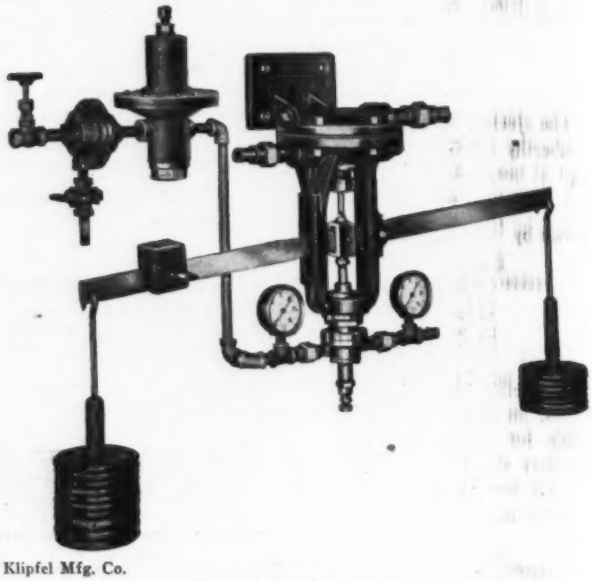
Nash Eng. Co.

NASH VACUUM PUMP

shaft of the paper machine. Such a pump should have a capacity of about 300 cu. ft. of air per minute at 10 inches of vacuum. This insures ample capacity in case serious air leaks develop in driers operated under a vacuum. A Klipfel Manufacturing Company vacuum breaker set for a suitable vacuum prevents over-loading the pump and unnecessary power losses. What small amount of hot water is discharged from the vacuum pump may be piped into the suction of the water pump, thus conserving all hot condensation for boiler-house purposes.

Automatic Regulation of Steam Pressure

This regulation is designed to automatically maintain any desired pressure in the steam header of the paper machine, irrespective of the quality of steam being used or of the weight or grade of paper being made and gives perfectly accurate and dependable control of pressure without the frequent adjustment so necessary with manually operated valves. An ordinary installation on a paper machine using both exhaust and live steam includes two piston operated valves actuated by air or water which is admitted to the operating cylinders of these valves as required, by the type M



Klipfel Mfg. Co.

TYPE "M" AUXILIARY

Auxiliary. This auxiliary is located at any convenient point in the machine room and is supplied with water or compressed air at 15 to 30 pounds pressure through the small reducing valve shown. A metal diaphragm contained in a chamber at the top of the auxiliary is affected on one side by the pressure in the machine header and on the other side by the lever and weighing arrangement shown. Movement of this diaphragm (due to pressure changes in the header) serves to operate the auxiliary valve which accurately controls the movement of the main steam regulating valves by varying the pressure of the water or air in their operating cylinders as required to maintain the desired pressure in the header. The slightest change in the header pressure due to a variation in demand for steam in the paper machine is immediately transmitted to the diaphragm, causing a change in the position of the auxiliary valve and a corresponding change in the position of the inner valves of the main regulators, admitting either more or less steam to the header until the pressure for which the auxiliary is adjusted is established once more. By suitably weighting the lever on the auxiliary any desired steam pressure either above or below atmospheric pressure may be maintained in the machine header.

The two main piston valves are perfectly balanced. The downward movement of the operating piston on each of these main valves is opposed by an adjustable spring. The springs in the two valves are of different tension so that the live steam valve cannot begin to open until the exhaust steam valve is fully open, though both may be wide open at the same time. Correspondingly, the live steam valve will close fully before the exhaust steam valve begins to close. In other words, live steam cannot be admitted while there is sufficient exhaust steam to maintain the desired pressure in the machine header. This whole operation is automatic and

takes place without any perceptible variation in the pressure maintained in the header.

Temperature Graduation Through Sectional Control

For maintaining a constant difference in pressure between any two sections of the header, the type M Auxiliary is used in conjunction with one piston operated valve. For this service both the upper and lower sides of the diaphragm are influenced by pressure, the upper side by the higher pressure and the lower side by the desired lower pressure.

The tendency of the diaphragm to move under the influence of the high pressure is opposed by the influence of the lower pressure plus the weighting of the lever, and actual movement of the diaphragm can only occur when one of these forces begins to predominate. Any desired difference in pressure can be maintained by suitably weighting the lever.

Maintenance

The Woodsome System due to its simplicity in principle and the standardized equipment used in its assembly is exceptionally free from maintenance troubles. Spare parts may be ordered at any time from the regular stock of manufacturers such as the Penberthy Injector Company, Klipfel Manufacturing Company, etc., without the vexing delays sometimes caused by being dependent upon specially manufactured equipment. There is no part of the system which should require overhauling or replacing within one year's time and the parts which might require renewal at the end of a year are very few indeed.

Ejectors

Examination of nozzles which have been in constant use for two years fails to show any appreciable wear such as might be expected, due to abrasion from steam at high velocity. However, nozzles should be examined from time to time.

Piston Operated Valves

These are all metal in construction and will operate for years without trouble. Those used for high pressure steam will require occasional packing around the stems in common with all valves used in such service. They are specially well designed and built to insure constant service.

Traps

There is nothing used in the construction of the low pressure traps which can easily wear out. Care must be taken that dirt, large pieces of scale, and other foreign substances do not clog the traps. Trouble of this character is common to most new installations until the piping is well blown out.

Pumps

Ordinary care in oiling, packing and caring for the water and vacuum pumps will insure years of service from them.

Automatic Control System

The diaphragms used in the valve auxiliaries should be replaced annually to avoid emergency repairs at some unexpected time later on. The use of clean water or compressed air to operate the control system and the occasional inspection and cleaning of the filters provided, will insure positive operation of the automatic control at all times.

Results in Operation

1. Due to positive steam circulation, steady removal of water and air, and sure control of the temperatures in the driers, there is secured:

(a) A superior quality of paper free from any cockling.

(b) Variation in moisture content of less than 1 per cent both across and along the sheet.

(c) Increased drying capacity without resorting to abnormally high steam pressures.

2. Superior strength of product because of even moisture content of sheet and the range of temperature graduation possible.

3. Low steam consumption due to the regenerative principle and to the graduated temperatures employed and to the fact that all the heat available from the steam supply is utilized before the condensation is finally discharged from the system.

4. Low maintenance cost, due to simplicity of layout, standardized equipment employed, and the elimination of troublesome specially built apparatus.

Price Bros. to Increase Capacity to 900 Tons Daily

MONTREAL, Que., January 2, 1923.—As a result of the negotiations recently concluded between the Provincial Government of Quebec and a new company organized to develop the power resources of Lake St. John and the Saguenay River, already in its initial stages, announcement was made at the offices of the Canadian Export Paper Company, Limited, in Montreal, today that Price Brothers & Co., Limited for it acts as export selling distributors, have entered upon a three years' program of expansion, which will ultimately increase their present daily output capacity of 300 tons of paper to 900 tons or 280,000 tons a year, thereby setting a new record for Canada.

The initial work of installation is already under way, and the program calls for the production of 200 tons a day new output by January, 1924, and 200 tons additional at the beginning of each of the two succeeding years until the maximum is reached.

What this development means to the news print business of Canada may be inferred from that fact that Price Brothers' total production, when their expansion program is completed, will equal in quantity Canada's total output of less than a decade ago and will be the equivalent of more than 25 per cent of the present total output. It would supply fully 10 per cent of the present total demand for news print on the North American Continent.

The Canadian Export Paper Company does not expect to meet with any considerable difficulty in marketing this output of news print, despite its large dimensions, the favorable location of the mill giving the company equal shipping facilities to the United States, South America, South Africa, Australia and Europe. It is anticipated, however, that the present markets will have to be extended in order to absorb the new output.

Price Brothers plans are a natural corollary of the new hydro-electric power developments which are taking place in the Saguenay District and which are intended ultimately to result in making available 1,300,000 h. p. for industrial and other purposes. The company's contract with the new power company calls for the delivery of 200,000 h. p. and one of the important economies to be effected will be an estimated saving to the paper mill of about $1,000,000 a year through the substitution of electricity for coal. Sir William Price, head of Price Bros. & Co., Limited, and J. M. McCarthy, a director, are largely interested in the new power company, which has been capitalized at $25,000,000, the remaining participants including James B. Duke, of New York and other well-known American Capitalists.

Price Bros. & Co., Limited, own or control some 9,000 square miles of freehold and leasehold timber limits in the valley of the Saguenay River and the Lower St. Lawrence, which have been roughly estimated to contain some 20,000,000 cords of pulpwood. They also own about 35,000 horsepower, on the Au Sable River, of which 7,000 is developed. Their timber holdings, taken in connection with their new power contract, are regarded placing them in a very enviable position amongst the foremost paper manufacturers in the Dominion.

To Start Pulp Mill at Kenora

W. A. Munro ground wood superintendent of Minnesota and Ontario Paper Company, International Falls, Minn., has gone to Kenora, Ont., to start the company's new pulp mill at that place.

CURRENT PAPER TRADE LITERATURE

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Pulp and Paper Industry

Properties, Chemistry and Testing of Raw Materials and Finished Products

Colloidal Rosin Size.—G. de Marcandiere. *Papeterie*, xliv, 970 (Nov. 10, 1922). The colloidal size prepared by the Etablissements Gillet has the following composition: free rosin 12.46 per cent, combined rosin 38.54, sodium oxide 2.92, water 46.08. It is fairly transparent but somewhat cloudy, is viscous, and dissolves in hot water to a pure white milk without leaving any residue. With aluminum sulphate it gives a gelatinous, unctuous, and remarkably white precipitate, which, contrary to other aluminum resinates, seems to become whiter when exposed to the action of air or sunlight. With lime or gypsum it gives gelatinous and unctuous precipitates, while other sizes gives precipitates like very fine white sand. Under the influence of even very moderate heat the calcium resinate obtained from coloidal size forms a very homogeneous lacquer (somewhat similar to an oil varnish) which ensures perfect sizing.—A. P.-C.

Viscosity of Cellulose Solutions. (Report of the Viscosity Committee of the Cellulose Division of the American Chemical Society.)—*J. Ind. Eng. Chem.*, xiv, 1164-1165 (Dec., 1922). The method proposed for the determination of the viscosity of cellulose ester solutions consists in brief in allowing a 0.635 cm. (0.25 in.) steel ball to fall through the solution of which the viscosity is to be measured, the solution being contained in a cylindrical glass tube of definite size and the ball being released in a prescribed manner. The time in seconds which is required for the ball to pass between two marks 25.4 cm. (10 in.) apart is the viscosity in seconds. The viscosity can be expressed in centipoises by means of the formula $V = K (S - S') T$, where V is the viscosity in centipoises, S the density of the ball, S' the density of the liquid, T the time of fall in seconds, and K a constant for the apparatus, which is best obtained by standardizing against a liquid of known viscosity.—A. P.-C.

Wood Preparing and Equipment

Are the Soaking Vats Used in Pulp Mills Necessary?—S. Bodlund. *Svensk Pappers Tidning*, xxv, 8 (1922); *Chem. Abs.*, xvi, 4060 (Nov. 20, 1922).—Pulp wood is usually soaked in warm water to free it from dirt and ice. The author points out that if the wood has not been transported by rail and has not been stored near boiler houses soaking would be unnecessary. Soaking all the wood instead of just the ice-coated wood causes a waste of steam. Air-dried wood of one year's standing containing 20 to 30 per cent of moisture, increases in water content on soaking to 50 to 60 per cent, and burning the wet bark causes an indirect fuel loss. The author suggests storing ice-coated wood at the mill for a short while in moderately heated rooms.—A. P.-C.

Acid Processes of Pulp Manufacture and Equipment

Electrometric Titration of Sulphurous Acid with Permanganate.—W. S. Hendrixson and L. M. Verbeck, Grinnell College. *J. Ind. Eng. Chem.*, xiv, 1152-1153 (Dec. 1922).—The authors describe experiments which they carried out in endeavoring to find a satisfactory method for determining sulphurous acid by means of permanganate; and they conclude that the development of an accurate method is impracticable, perhaps impossible.—A. P.-C.

Modern Methods of Wood Pulp Manufacture.—Gustave Hellstrom, Boving & Co., Ltd. *Paper Trade Rev.; Papeterie* xliv, 1013-1018 (Nov. 25, 1922).—Brief description of the sulphite and sulphate processes.—A. P.-C.

Pulp Treatment and Drying—Operation and Equipment

Felt Washer for Wet Machines and Paper Machines.—C. Muller. Fr. patent 546,232. *Papeterie* xliv, 1036 (Nov. 25, 1922).—The felt passes over one or more rolls completely immersed in water and is subjected to the action of one or more rapidly rotating paddle wheels which are in close proximity to, but do not come into actual contact with, the felt. Suitable sprays are provided.—A. P.-C.

Bleaching, Bleach Manufacturing and Equipment

The Mathieson System for Preparing Liquors from Liquid Chlorine.—J. H. MacMahon. *Paper Mill*, xlv, No. 47, 6, 14, 16, 18 (Dec. 2, 1922).—An amount of lime (about 2,000 lb. of CaO or 2,400 lbs. of $Ca(OH_2)$ sufficient to absorb one ton of chloride is made into a milk in about 8,000 gallons of water, and circulated in a 10,000 gallon concrete tank. Chlorine is led from the container to the bottom of the tank through an expansion coil of 2 inch pipe about 60 feet long, which is immersed in the circulating liquor. Advantage is thus taken of the latent heat of vaporization of the liquid chlorine to counteract the heat of reaction of the chlorine and lime and prevent the temperature from rising sufficiently to cause formation of chlorates. Between the chlorine container and expansion coil is placed a pressure gauge; and when the pressure drops to zero the chlorine has all been absorbed and the batch is allowed to settle. It is claimed that bleach liquor of uniform strength and of any desired concentration can be obtained, and that the possibility of overchlorination is entirely eliminated. The equipment designed by the Mathieson Alkali Works for the transportation of liquid chlorine (one ton drums and multiple unit tank cars with special cradles for holding the drums securely) is described. The advantages of the system are briefly discussed.—A. P.-C.

Paper Manufacturing and Equipment

Rubber Latex for Paper.—*Paper Mill*, xlv, No. 47, 10 (Dec. 2, 1922).—Brief outline of the attitude of American paper men towards Kaye's recent invention concerning the use of rubber latex in paper. Though probably useful for higher grades, it is hardly likely to prove economically successful for lower grades such as news print.—A. P.-C.

Beating and Beating Engines.—Charles W. Shartle, Shartle Bros. Machine Co. *Paper Trade J.*, lxxv, No. 22, 20-26 (Nov. 30, 1922); *Paper Mill*, xlv, No. 47, 12, 28, 30, 32 (Dec. 2, 1922); *Paper Ind.*, iv, 1243-1245 (Dec., 1922).—A description of the Shartle breaker beater and of the Shartle breaker system, which was developed especially for the treatment of waste paper stock for board mills. The breaker beater has a concrete tub 40 to 75 feet long, the top of the tub being about one foot above the floor line. The roll is mounted on a steel shaft carried to the hollow midfeather. The roll carries 1″ x 12″ bars, each held in place by an individual 8 inch diameter ring, and spaced on 12 in. centers. The roll is mounted in specially designed trunnion type bearings carried on heavy coil springs. There is no bed plate and the roll is set 6 to 8 in. off the bottom. The backfall is of the Brownell-Buehler type with suitably perforated face. In the Shartle system the side of the beater is cut out and the stock overflowed into a sump from which it is pumped to a 24″ x 48″ x 50′ settling trough in which the consistency was suitably reduced to cause metals and heavy

materials to settle and wood and cork to float (same being removed by a skimmer). It passes to a screen and the coarse stuff passes to a secondary beater equipped with Brownell-Buehler perforated backfall. The claims made for the system are: automatic removal of all foreign material from the stock, saving in labor, and saving in power. The merits of the system are briefly discussed.—A. P.-C.

Heat Economy in Machine Room Ventilation.—J. O. Ross. *Paper Mill*, xlv, No. 47, 4, 22, 44 (Dec. 2, 1922); *Paper Trade J.*, lxxv, No. 22, 54-56 (Nov. 30, 1922).—The two general systems for ventilating a machine room consist of hooding a machine and of not hooding it; and each of these is practically divided into two more subdivisions: (1) all or most of the air is delivered towards the roof, and (2) all or most of the air is delivered in or around the dryers. These systems are discussed in turn, showing their relative merits and disadvantages. From a ventilating point of view a hood should be on every machine; but from a manufacturing point of view it is up to the mill owner or superintendent to decide the question. The use of the Briner Economizer for utilizing part of the waste heat from the machine is briefly mentioned. —A. P.-C.

Machine for the Manufacture of Extra-Fine Papers.—*Papeterie*, xliv, 1010, 1013 (Nov. 25, 1922).—Brief description of the chief points of interest of a machine supplied to the Papeteries Vincent Montgolfier for the manufacture of extra fine papers, including photographic papers. All rotating parts, including table rolls, are mounted on ball bearings. All parts which come in contact with the stock or with water are of bronze or brass to prevent any contamination of the sheet by specks of iron. The breast roll ball bearings are placed within the roll itself, and are protected from the water by a waterproof packing. The roll thus turns on a stationary axis, and it can be removed as easily as an ordinary breast roll. The suction boxes are circular in cross section.—A. P.-C.

Driving Paper Machine Reels.—*Mon. Papeterie Belge*, ii, No. 11, 7, 9 (Nov., 1922).—The trouble encountered due to the gradually increasing diameter of the roll being wound has been overcome by driving the reel by means of a water turbine, the water being circulated in a closed system by means of an electrically driven centrifugal pump. (This method is covered by Fr. patent 505,614, U. S. A. patent 1,404,284, and Can. patent 215,430. Granted to B. E. Fougner.—A. P.-C.

Process for Waterproofing Wood, Cardboard, Paper, or Fabrics.—F. A. Roux, Fr. patent 535,410, Jan. 24, 1922. *Chimie et Industrie*, viii, 877 (Oct., 1922).—A thin film of zinc or other malleable metal is electrically deposited on a conducting surface. This film is pasted or glued by any suitable method to the surface of the object to be waterproofed, either before or after removing it from the surface on which it was deposited.—A. P.-C.

General Equipment

A Meter for Recording the Alkalinity of Boiler Feed Water. R. C. Arthur and E. A. Keeler. *Power*, lv, 768-770 (May 16, 1922); *Chem. Abs.*, xvi, 3521 (Oct. 20, 1922).—The hydrogen-ion concentration of feed water is determined electrometrically in a new type of combined electrode. The feed water is passed through an aspirator and with its entrained air is directed against the electrode disk. Saturation of the electrode with air results and the water flow completes the circuit between the calomel electrode and the platinum gauze electrode. In effect an oxygen electrode is produced. A fixed voltage of 0.9 v. is connected in series with the recorder and electrodes to bring the measurement within the range of the recorder. An automatic recording instrument is used. A motor-operated valve automatically regulates the addition of alkali to the feed water.—A. P.-C.

Automatic Volumetric Analysis Carbon Monoxide Recorder. Guy B. Taylor and Hugh S. Taylor, E. I. duPont de Nemours & Co. *J. Ind. Eng. Chem.*, xiv, 1008-1010 (Nov., 1922).—The authors describe an instrument adapted for direct determination of carbon monoxide or dioxide at low concentrations, but which is also applicable, when suitably modified, to other gases and other concentrations. In principle it consists of mixing continuously measured volumes of gas with a liquid reagent and measuring the resulting electrolytic conductivity change of the solution. The novelty of the apparatus lies in the method of securing accurate control of the volume of the two fluids mixed, which consists of two piston pumps driven from a common shaft and thus stroking together, one delivering gas and the other reagent, so that the volume ratio of the two is independent of variations in the speed of pumping. Troubles due to mechanically closing valves of the ordinary types are overcome by the use of mercury traps as valves. The apparatus as described will determine carbon monoxide in flue gas or in the air up to a total of 8 per cent with an accuracy of ± 0.2 per cent at temperatures around 25° C. With no temperature control on any part of the apparatus except the cell the results should not be in error more than ± 3 per cent of the amount present.—A. P.-C.

Power Generating and Equipment

Installations for the Electrolytic Protection of Boilers and Condensers.—Philippi. *Arch. Wärmewirtschaft*, iii, 151-153 (1922); *Chem. Abs.*, xvi, 3993 (Nov. 20, 1922).—Boilers are protected against corrosion by making them cathodes. The anodes are of iron pipe, set in but insulated from the boilers. The voltage is 20 to 30 and the current 0.02 to 0.04 amp. per sq. m. of boiler surface. The anodes last about 4,000 hours. The results of trial during several years have been satisfactory. The process reduces boiler scale, partly because of the film of hydrogen formed on the boiler.—A. P.-C.

Formation of Scale in Boilers.—*Papeterie*, xliv, 874-878 (Oct. 16, 1922).—Brief general discussion of the scaling of boilers and of the methods of removing the scale.—A. P.-C.

Water Supply and Equipment

Prechlorination-Alum Treatment of Soft Colored Water.—A. L. Gammage. *Eng. News-Record*, lxxxix, 391-392 (1922); *Chem. Abs.*, xvi 3990 (Nov. 20, 1922).—Experiments and working results show that a low-colored mechanical filter effluent which is nearly non-corrosive can be obtained. Low alkalinity and comparatively high carbon dioxide give better color removal than simply a final alkalinity of 10 or more parts per million as generally used in coagulated waters. Prechlorination lowers the color with the same amount of alum or saves alum to obtain the same resulting color. Chlorine with alum gives better color removel with higher alkalinity and lower carbon dioxide. Soft corrosive water may be treated with lime or soda after mechanical filtration rather than with coagulants in a treating basin before filtration to obtain much better removal of color and equal removal of carbon dioxide to obtain the lowest practical corrosive action with the purified water.—A. P.-C.

General

An Italian Paper Mill.—*Papeterie*, xliv, 926-930 (Oct. 25, 1922).—A description of the ground wood and paper mills of the Pirola Co. of Milan.—A. P.-C.

What May Be Accomplished by Plant Papers.—Ernest Augustus, Editor of "Mead Co-Operation." *Paper*, xxxi, No. 3, 16, 18, 20, 35 (Nov. 8, 1922).—A discussion of essentials to be considered in editing paper mill organs going to employees.—A. P.-C.

Foreign Newsprint-Paper Industry and Its Realtion to the United States.—Constant Southworth. *Pulp and Paper*, xx, 993-995 (Nov. 16, 1922).—A general analysis of the present status of the news print industry and news print trade throughout the world.—A. P.-C.

The Coarse Paper Situation in the United States.—D. C. Everest, Marathon Paper Mills. *Pulp and Paper,* xx, 969-972 (Nov. 9, 1922); *Paper Trade J.,* lxxv, No. 17, 18-21. (Oct. 26, 1922); *Paper Ind.,* iv, 1051-1055 (Nov., 1922); *Paper* xxxi, No. 3, 11-14, 34, (Nov. 8, 1922).—An outline of the present status of the wrapping paper industry.—A. P.-C.

Conditions in the German Wood Pulp and Paper Industry.—F. T. F. Dumont. *Paper Mill* xlv, No. 46, 16, 38 (Nov. 25, 1922).—Brief analysis of the present conditions in the industry, and more particularly of their effect on newspaper publishing.—A. P.-C.

Traffic Details in the Paper Industry.—J. A. Quinland, St. Regis Paper Co. *Paper Mill,* xlv, No. 45, 20 (Nov. 18, 1922); *Paper Ind.,* iv, 1250-1251 (Dec., 1922).—Brief notes on description of shipments so as to obtain low rate classification, avoiding demurrage charges, and fitness of cars for loading paper.—A. P.-C.

Research Problems in the Pulp and Paper Industry.—E. Sutermeister. *Paper Ind.,* iv, 1087-1091 (Nov., 1922).—A brief outline of some of the more important problems in: cellulose chemistry, sulphite, soda and sulphate processes, bleaching, sizing, beating, classifying and valuing of fillers, paper making, investigation of new fibers, and coating of papers.—A. P.-C.

Manufacturing Efficiency and Comparative Conversion Costs.—Thos. J. Burke, Cost Association of the Paper Industry. *Pulp and Paper,* xx, 921-923 (Oct. 26, 1922); *Paper Mill* xlv, No. 42, 2, 10, 12 (Oct. 28, 2922).—The author briefly discusses how far a trade association may go in collecting conversion cost data to assist its members to produce more efficiently, without coming in conflict with the federal U. S. laws, and makes a plea for investigation on the part of the paper purchasing commissions of the Washington government to see that successful bidders do not furnish below cost, which would constitute "unfair competition." He then shows the distinction between costs and expenses in manufacturing and outlines how the Cost Association proposes to collect and make available reliable statistics on "comparative conversion costs."—A. P.-C.

Fifth Annual Convention of the Canadian Paper Trade Association, Toronto, Oct. 25 and 26, 1922.—*Pulp and Paper,* xx, 947-951 (Nov. 2, 1922); *Paper Trade J.,* lxxv, No. 18, 28, 30, 32, 34 (Nov. 2, 1922); *Paper Mill,* xliv, No. 43, 2, 30, 32 (Nov. 4, 1922).—Account of the meeting, including the president's address and the secretary's report.—A. P.-C.

Meeting of the Empire State Forest Products Association, Syracuse, N. Y., Nov. 9, 1922.—*Paper,* xxxi, No. 5, 10-11 (Nov. 22, 1922).—A brief account of the meeting. Special stress was laid on the necessity for legislation against fire and beavers.—A. P.-C.

Developments in the Standardization of Paper.—S. L. Willson. *Paper Mill* xlv, No. 41, 32, 34, 72, 74, 75 (Oct. 21, 1922); *Paper Trade J.,* lxxv, No. 17, 23-25 (Oct. 26, 1922); *Paper,* xxxi, No. 4, 10-13 (Nov. 15, 1922).—An outline of the work being carried out by the U. S. Bureau of Standards in co-operation with the American Paper and Pulp Association and the National Paper Trade Association.—A. P.-C.

List of Abbreviated and Full Titles and of Addresses of the Journals from Which Abstracts Have Been Prepared for This Issue

Chem. Abs.	Chemical Abstracts. E. J. Crane, Ohio State University, Columbus, Ohio.
Chimie et Industrie	Chimie et Industrie. 49 Rue des Mathurine, Paris, France.
Eng. News-Record	Engineering News-Record. McGraw-Hill Co., Inc., Tenth Ave., at Thirty-Sixth St., New York City.
J. Ind. Eng. Chem.	The Journal of Industrial and Engineering Chemistry, H. E. Howe, 810 Eighteenth St., N. W., Washington, D. C.
Mon. Papeterie Belge	Le Moniteur de la Papeterie Belge. Jean Lecluselle, 68 Rue Edmond Van Cauwenbergh, Bruxelles, Belgium.
Paper	Paper. 36 West Forty-Fourth St., New York City.
Paper Ind.	The Paper Industry. 356 Monadnock Block, Chicago, Ill.
Paper Mill	The Paper Mill and Wood Pulp News. L. D. Post, Tribune Building, 154 Nassau St., New York City.
Paper Trade J.	Paper Trade Journal. 10 East Thirty-Ninth St., New York City.
Papeterie	La Papeterie. 9 Rue Lagrange, Paris (5°), France.
Pulp and Paper	Pulp and Paper Magazine of Canada. Gardenvale, Que.
Power	Power. McGraw-Hill Co., Inc., Tenth Ave., at Thirty-Sixth St., New York City.
Svensk Pappers Tidning	Svensk Pappers-Tidning. Svensk Pappersbruksföreningen, Hovslagaregatan 3, Stockholm, Sweden.

Shrinkage of Wood

In an article in the *Cross Tie Bulletin,* St. Louis, Mo., by Arthur T. Upton, Forest Products Laboratory, Madison, Wis., dealing with the shrinkage of wood used in cross ties in consequence of seasoning, there are some data of interest to pulpwood users in regard to the shrinkage in volume and the reduction in weight on seasoning of pulpwood species.

Shrinkage from Green to Oven Dry Conditions

Name	Locality	In volume (per cent of dimensions when green)
Hemlock, Eastern	Wisconsin	10.4
Hemlock, Western	Washington	11.6
Spruce, Engelmann	Colorado	10.4
Spruce, White	Wisconsin	14.8

Rate and Amount of Seasoning

Species	Length of seasoning (months)	Per cent based on green weight: 3 Months	Per cent based on green weight: Final wt.	Final moisture per cent
White Fir	6	66	63	...
White Fir	7½	70	61	...
Hemlock (unpeeled)	13	81	67	27.5
	11	84	71	...
	9	95	81	...
	14½	87	76	...
Hemlock (peeled)	16	74	60	...
	14	87	63	...
	11	78	66	...
	12	90	66	...
	9	90	69	...

Low Water Provisions in Northern New York

WATERTOWN, N. Y., January 2, 1923.—The 2,000 horsepower of the New York air brake steam auxiliary plant was switched into the Northern New York Utilities, Inc., system Friday, it was said by John N. Carlisle, president of the latter company Saturday morning upon his return from a few days out of town. As soon as certain improvements can be completed at the Portable plant of the New York Air Brake Company, 1,000 horsepower more will be turned through the utilities lines.

President Carlisle explained that the low water condition, which is unprecidented at this season, threatens to reduce the electric production of his company to a point where it might mean hardship to the St. Regis Paper Company to which there exists a contract to furnish required operating power. He said that the acquisition of the steam power from the New York Air Brake Company at this time would give the St. Regis Paper Company full delivery and enable his company to better serve other customers at the same time.

It was pointed out by President Carlisle that the contract with the New York Air Brake Company for use of the plants is drawn for a month at a time. This is done so that in event a thaw or heavy rains should restore the river flow the plants could be promptly returned.

Members Exchange

The secretary has an inquiry from a member with headquarters in New York for a draftsman experienced in mill construction and machinery lay out. Also an inquiry from one in the Middle West for a man with experience in technical control of paper board manufacture.

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SUMMARY

News Print .....529 rolls
Printing Paper .....405 cs., 1,397 bls.
Wrapping .....40 bls.
Kraft .....1,956 rolls
Drawing Paper .....9 cs.
Hangings .....38 bls., 3 cs.
Wall Paper .....44 cs., 3,506 rolls, 681 bls.
Cigarette Paper .....112 cs.
Tracing Paper .....2 cs.
Parchment Paper.....22 cs., 4 rolls
Surface Coated Paper.....33 cs.
Filler Paper .....46 cs.
Tissue Paper .....20 cs.
Photo Paper .....33 cs.
Miscellaneous Paper ..86 cs., 2,451 bls., 2,221 rolls

CIGARETTE PAPER

British-American Tobacco Co., Cedric, Liverpool, 30 cs.
Rose & Frank, La Savoie, Havre, 25 cs.
Kaufman Bros. & Bondy, Niagara, Bordeaux, 8 cs.
De Manduit Paper Corp., La Savoie, Havre, 49 cs.

WALL PAPER

Nat'l City Bank, Missouri, Antwerp, 54 rolls.
A. C. Dodman, Jr., Inc., Zeeland, Antwerp, 8 cs.
A. C. Dodman, Jr., Inc., by same, 8 bls.
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F. G. Prager Co., Inc., by same, 3,452 rolls.
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Hudson Trading Co., Mongolia, Hamburg, 182 rolls.

PRINTING PAPER

M. O'Meara Co., Missouri, Antwerp, 102 cs.
Herman Lips, by same, Antwerp, 85 cs.
Herman Lips, Zeeland, Antwerp, 197 cs.
Oxford University Press, Cedric, Liverpool, 16 cs.
J. Monroe Co., Mt. Carroll, Hamburg, 1,397 bls.
E. Dietzgen & Co., Manchuria, Hamburg, 5 cs.

TRACING PAPER

R. F. Downing & Co., Pr. Monroe, London, 2 cs.

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Erstein & Co., by same, 5 cs.
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Blauvelt-Wiley Mfg. Co., by same, 55 rolls.
Baxter Paper Co., by same, 52 bls.
M. M. Cohen, by same, 55 bls.
M. Winter, by same, 370 bls.
Irving Nat'l Bank, Seattle Spirit, Hamburg, 137 rolls.
Ladenburg, Thalman & Co., by same, 155 bls.
Republic Bag & Paper Co., by same, 720 bls.
Arkell Safety Bag Co., by same, 62 rolls.

RAGS, BAGGINGS, ETC.

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E. J. Keller Co., Inc., Crissfield, Antwerp, 138 bls. bagging.
E. J. Keller Co., Inc., by same, 8 bls. thread waste.
E. J. Keller Co., Inc., by same, 236 bls. rags.
E. J. Keller Co., Inc., Georgia, Algiers, 184 bls. rags.
Katzenstein & Keene, Inc., Liberty, Rotterdam, 571 bls. rags.
Castle, Gottheil & Overton, Nev. Miller, London, 61 bls. rags.
Castle, Gottheil & Overton, Alpine Range, Dundee, 39 bls. twines.
Irving Nat'l Bank, Geo. Washington, Bremen, 56 bls. rags.
Irving Nat'l Bank, Missouri, Antwerp, 144 bls. flax waste.
Ladenburg, Thalman & Co., by same, 144 bls. flax waste.
Ladenburg, Thalman & Co., Zeeland, Antwerp, 100 bls. flax waste.
Salomon Bros. & Co., by same, 46 bls. flax waste.
Brown Bros. & Co., by same, 37 bls. Thread waste.
E. J. Keller Co., Inc., Argus, Antwerp, 56 bls. paper stock.
E. J. Keller Co., Inc., by same, 14 bls. thread waste.
E. J. Keller Co., Inc., by same, 75 bls. bagging.
American Wood Pulp Corp., by same, 1,477 bls. rags.
American Wood Pulp Corp., by same, 3 bls. new cuttings.
American Wood Pulp Corp., by same, 121 bls. bagging.
W. Hughes, by same, 362 bls. rags.
Goldberg Waste Co., by same, 27 bls. thread waste
Irving Nat'l Bank, United States, Copenhagen, 86 bls. paper stock.
E. J. Keller Co., Inc., Ansaldo VII, Genoa, 122 bls. cotton waste.
Railway Mfrs. Supply Co., by same, 106 bls. cotton waste.
Royal Manufacturing Co., by same, 66 bls. cotton waste.
W. Hughes, by same, 52 bls. cotton waste.
J. Spunt & Co., Inc., Slavic Prince, Shanghai, 90 bls. cotton waste.
1st Nat'l Bank of Boston, Haure Maru, Kobe, 205 bls. cotton waste.
O'Neill Bros., by same, 35 bls. cotton waste.
W. Hughes, by same, 75 bls. cotton waste.
Irving Nat'l Bank, Ville de Djiboute, Marseilles, 148 bls. new cuttings.
Irving Nat'l Bank, by same, 556 bls. rags.
1st Nat'l Bank, by same, 22 bls. rags.
Nat'l City Bank, by same, 179 bls. rags.
D. M. Hicks, Inc., by same, 70 bls. rags.
Goldman, Sachs & Co., Niagara, Bordeaux, 266 bls. rags.
M. O'Meara Co., Bilderdyk, Rotterdam, 75 bls. rags.
S. Silberman, by same, 436 bls. rags.
Ladenburg, Thalman & Co., by same, 236 bls. cotton waste.
American Express Co., Capulin, Hull, 45 bls. rags.
London & Liverpool Bank of Commerce, by same, 56 bls. rags.
Mechanics & Metals Nat'l Bank, by same, 28 bls. bagging.
Mechanics & Metals Nat'l Bank, Capulin, Leith, 69 bls. bagging.
Equitable Trust Co., Capulin, London, 375 bls. rags.
Equitable Trust Co., Seattle Spirit, Hamburg, 48 bls. rags.
M. O'Meara Co., by same, 43 bls. rags.
Int'l Aceptance Bank, by same, 407 bls. rags.
Goldman, Sachs & Co., by same, 106 bls. new cuttings.

OLD ROPE

Waste Material Trading Co., Bilderdyk, Rotterdam, 37 coils.
Equitable Trust Co., by same, 96 coils.
Ladenburg, Thalman & Co., Capulin, Leith, 54 coils.
Ladenburg, Thalman & Co., Manchuria, Hamburg, 91 coils.
Brown Bros. Co., by same, 42 bls.
Brown Bros. & Co., Zeeland, Antwerp, 273 coils.
Katzenstein & Keene, Inc., Sinsinawa, Genoa, 94 bls.
Cuban-American Metal Co., Calamares, Havana, 18 bls.
M. O'Meara Co., Argus, Antwerp, 49 coils.
E. J. Keller Co., Inc., Georgia, Algiers, 145 coils.

WOOD PULP

M. Gottesman & Co., Inc., United States, Copenhagen, 1,200 bls.
Johanesson, Wales & Sparre, Inc., by same, 127 bls.
R. F. Hammond, by same, 500 bls.
Whalen Pulp & Paper Mills, G. Dollar, Vancouver, 6,460 bls., 923 tons.
Whalen Pulp & Paper Mills, Pacific, Vancouver, 6,290 bls.
H. Hollessen, Geo Washington, Bremen, 1,335 bls.
Irving Nat'l Bank, Belvedere, Helsingfors, 995 bls., 153 tons
Irving Nat'l Bank, Belvedere, Kotka, 811 bls., 152 tons.
American Wood Pulp Corp., Mt. Carroll, Hamburg, 1,350 bls., 273 tons.
Johanesson, Wales & Sparre, Inc., Josey Hernosand, 5,388 bls., 912 tons.
C. B. Richard & Co., Manchuria, Hamburg, 72 bls.
E. Naumburg & Co., Seattle Spirit, Hamburg, 5,003 bls., 728 tons.

WOOD FLOUR

Innes Speiden & Co., Seattle Spirit, Hamburg, 800 bgs., 46,950 ks.

CASEIN

Kalbfleisch Corp., Taurus, B. Aires, 834 bags, 50,040 kilos.
T. M. Duche & Sons, by same, 1,835 bags, 110,000 kilos.
A. Klipstein & Co., Niagara, Bordeaux, 150 bags.
Kalbfleisch Corp., So. Cross, B. Aires, 2,500 bags.

BOSTON IMPORTS

WEEK ENDING DECEMBER 30, 1922

Irving Nat'l Bank, Belvedere, Kotka, 3,967 bls. wood pulp, 692 tons.
Irving Nat'l Bank, Belvedere, Helsingfors, 407 bls. wood pulp, 50 tons.
J. A. & W. Bird & Co., Canadian Explorer, Wellington, 700 bgs. casein, 50 tons.
Katzenstein & Keene, Inc., Bolivian, Liverpool, 219 bls. new cuttings.
Castle, Gottheil & Overton, Schoharie, Liverpool, 52 bls. waste paper.

BALTIMORE IMPORTS

WEEK ENDING DECEMBER 30, 1922

E. J. Keller Co., Inc., Dallas, Sundsvall, 1,000 bls. wood pulp.

(*Continued on page 72*)

N. Y. Office
280 Broadway

DAYTON OFFICE

Chicago Office
Otis Bldg.

Howard Bond

Howard Ledger

"The Paper of Many Uses"

Manufactured by

THE HOWARD PAPER COMPANY

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Bleached Spruce Sulphite and Soda Pulp

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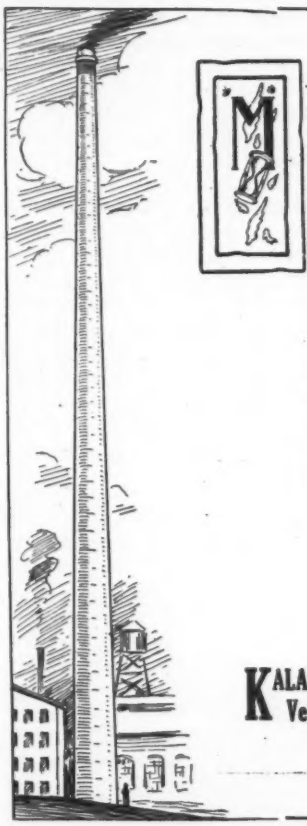

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KALAMAZOO Vegetable Parchment Co.

KALAMAZOO
MICHIGAN

GREASEPROOF PARCHMENT PAPERS

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(Write for Samples and Quotations)
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NEW YORK

New York Market Review

OFFICE OF THE PAPER TRADE JOURNAL,
WEDNESDAY, JANUARY 3, 1923.

The apex of holiday quietude was attained in the first few days of the past week, the entire paper trade in and around New York taking a breathing spell between Christmas and New Year's. Tuesday and Wednesday of this week have served to get the mechanism of the industry into running condition again. Owing to the bulk of correspondence to be cleared away, inventories to be completed and price lists to be revised with the coming of the new year, executives have found themselves unable to devote much attention to either the buying or selling of paper. Fundamental conditions remain practically the same as they were in mid-December when the first manifestations of easiness were apparent in the New York markets. With the holiday rush over, the transportation situation has improved to a marked extent and manufacturers report an increasing percentage of available freight cars from week to week. The chief obstacle with which the industry is confronted as the year begins appears to be the scarcity of water in grinding regions. This situation has been reflected all along the line, manifesting itself in an acute scarcity of mechanical pulp for spot shipment accompanied by "runaway" market prices.

While both coarse and fine papers have been affected in their movement to the consumer during the past two weeks as a result of the slackened holiday buying, the former have enjoyed an activity surpassing that which might generally be expected at this season. Demand for kraft paper of both domestic and foreign origin has remained steady and the market bids fair to enter the new year with more momentum than it has had in months. With the exception of news print, which has shown no abatement in tone, wrapping paper has held the center of the stage in point of consuming demand, the announcement of one prominent manufacturer last week that after January 1 contract prices would be guaranteed but thirty days in place of the ninety which have been conceded heretofore having the effect of awakening considerable interest.

News print paper has continued to move to consuming channels at the same brisk pace it has maintained for the greater part of the past year, only a slight cessation in the spot demand having marked the past two weeks' business. Contract shipments are reported to be moving along with greater regularity corresponding with the amelioration in the transportation situation. Producers are confident that 1923 will be another record year in the industry and this optimism appears to be well founded when it is considered that many mills are covered on contract for the next six months and the demands of publishers show no signs of easing up.

Book paper has passed through a comparatively quiet week as far as market conditions in New York were concerned. Negligible quantities of the commodity were turned over to fill-in depleted stocks in a few particular grades, but on the whole salesmen found it difficult to secure interviews with their customers and even more so to "land" holiday orders.

Fine paper mills have not been kept running overtime to meet the scant, hand-to-mouth demand that has prevailed for several weeks, but preparations are being made for what is expected to be a very successful year's business in this field. Export demand for fine papers of all grades has been relatively light but producers anticipate a renaissance in activity not later than January 15.

Tissues have been quiet in wholesale and distributing circles, while farther down the line stocks have become severely depleted as a result of one of the heaviest Christmas seasons on record. Prices hold firm with the inception of the new year and, owing to the high cost of pulp and other raw materials, it is not believed that they will depreciate to any extent for some time to come.

The board market is still in a comparatively unsettled state in consequence of the recent recessions in chemical pulp prices. Movement from the mills has been of a light nature during the past ten days and while the lower scale of prices which entered the board market several weeks ago has obtained throughout the holidays, prices are still unsteady and may be viewed nominally.

Imported kraft paper continues to enter domestic markets in considerable quantities although the bulk of imports during the last month is said to have applied to old contract business. The wrapping paper market is in an exceptionally firm position and domestic mills are not wanting for business. Kraft pulp has exhibited a firming tendency.

Mechanical Pulp

Ground wood demand has remained very keen during the holidays although but limited supplies are to be found on the market. Lack of sufficient water in grinding regions has brought about conditions which are almost panicky as the reserve stocks of this commodity continue to dwindle. Prices have held exceptionally firm, the market value of freshly ground spruce pulp for immediate shipment being largely determined by the urgency of the buyer's needs. Quoted prices range between $42 and $46 per ton when any ground wood is available, although there have been rumors of a number of instances where transactions were closed above the $55 mark. With the betterment in water conditions which is looked for in the near future, it is felt that these prices will become more stabilized.

Chemical Pulp

With the possible exception of kraft pulp, the chemical pulp market of the past week has been featured by a complete lack of activity. Mills have been indisposed to make quantity purchases for the last three weeks, but pulp men look for a resumption in demand within the next ten days. The strong demand for kraft paper has had the effect of enhancing the market value of both foreign and domestic grades of kraft pulp, the latter being quoted at an average of 3.10 to 3.25 cents a pound.

Old Rope and Bagging

Domestic offerings of old rope have held at comparatively steady prices during the holiday season although the volume of business has been very light. Imported rope has been a negligible factor in the market of late, shipments of the foreign commodity becoming less frequent week by week.

Bagging has held its own in the past two weeks, no price lowerings being reported, but demand was of a superficial nature. With the coming of the new year dealers anticipate a marked enhancement in demand from the paper manufacturing trade.

Waste Paper

The lower grades of waste paper have continued to strengthen in tone as well as in price during the two weeks past. The better grades have remained at a standstill. Waste paper men are greatly encouraged by the turn for the better which the market has taken during that period of the year when inactivity is generally taken as a matter of course, and are inclined to take this as an indication that the "slump" which recently prevailed in that market has now been relegated to past history. With the advent of 1923 packers and dealers are confident that good times are at hand.

Rags

During the holiday buying depression rag graders and sorters have catered to a fair demand from roofing felt manufacturers, whereas consumers in the paper trade exhibited a disinclination to stock up beyond their immediate demands. Prices are steady to firm, white rags holding a fairly strong position considering the season of the year.

Twine

The fact that the demand for twines was not especially active at the opening of the Christmas season spared this market from any drastic let-down in consumer interest over the holidays. Dealers have been confidently awaiting the approach of the current year, feeling that it would certainly bring with it a stimulus to purchasing accompanied by a corresponding advance in twine prices.

Market Quotations

Paper Company Securities

New York Stock Exchange closing quotations January 2, 1923:

	BID	ASKED
American Writing Paper Company, pref.	26½	27
International Paper Company, com.	51¾	51⅞
International Paper Company, pref., stamped	74½	75
Union Bag & Paper Corporation	67	68

Paper

F. o. b. Mill.

Ledgers	11.00	@38.00
Bonds	9.00	@55.00
Writings—		
Extra Superfine	16.00	@35.00
Superfine	14.00	@30.00
Tub Sized	10.00	@15.00
Engine Sized	8.50	@11.00
News—f. o. b. Mill—		
Rolls, contract	3.85	@ 4.00
Rolls, transit	4.00	@ —
Sheets	4.00	@ —
Side Runs	3.25	@ 3.50
Book, Cased—f. o. b. Mill		
S. & S. C.	7.50	@12.00
M. F.	7.00	@10.00
Coated and Enamel	9.00	@14.00
Lithograph	9.00	@14.00
Tissues—f. o. b. Mill		
White, No. 1	.95	@ 1.10
Colored	1.25	@ 2.50
Anti-Tarnish	1.75	@ 2.25
Silver Tissue	—	@ —
Manila	.90	@ 1.00
Kraft—f. o. b. Mill—		
No. 1 Domestic	7.00	@ 7.50
No. 2 Domestic	6.50	@ 6.75
Imported	6.50	@ 7.00
Screenings	3.15	@ 3.40
Manila—		
No. 1 Jute	8.50	@ 9.00
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.50	@ 5.50
No. 2 Wood	4.00	@ 4.50
Butchers	4.25	@ 4.75
Fiber Papers—		
No. 1 Fiber	6.00	@ 6.25
No. 2 Fiber	5.25	@ 5.50
Common Bogus	3.50	@ —
Card Middies	4.00	@ 5.00
Boards—per ton—		
News	60.00	@65.00
Straw	65.00	@70.00
Chip	55.00	@60.00
Binders' Board	75.00	@85.00
Sgl. Mla. Lt. Chip	65.00	@70.00
Wood Pulp	—	@ —
Container	75.00	@80.00
Wax Paper—		
Self Sealing White 28 and 30 lb basis	11.00	@12.00
Waxed Tissue	1.60	@ 1.80
Glassine—		
Bleached, basis 25 lbs.		15.00 nominal
Bleached, basis 20 lbs.		13.00 nominal
Papermakers' Felts, per ton—		
Dry	75.00	@85.00
Saturated	65.00	@75.00
Sheathing Paper, per ton—		
Rosin Sized (red and gray, 30 lbs. per 500 sq. ft.)	55.00	@65.00

Mechanical Pulp

(Ex-Dock)

No. 1 Imported	40.00	@45.00
No. 1 Domestic	42.00	@46.00
For immediate shipment	46.00	@ —

Chemical Pulp

(Ex-Dock, Atlantic Ports.)

Sulphite (Imported)—		
Bleached	4.25	@ 4.75
Easy Bleaching	3.00	@ 3.25
No. 1 strong unbleached	2.80	@ 3.00
No. 2 Strong unbleached	2.65	@ 3.00
No. 1 Kraft	2.85	@ 3.00
Sulphate—		
Bleached	4.00	@ 4.25
(F. o. b. Pulp Mill.)		
Sulphite (Domestic)—		
Bleached	4.50	@ 5.00
Strong unbl'chd.	2.90	@ 3.20
Easy Bleaching Sulphite	3.00	@ 3.25
News Sulphite	2.75	@ 3.00
Mitscherlich	2.85	@ 3.15
Kratt (Domestic)	3.10	@ 3.25
Soda Bleached	4.25	@ 4.50

Domestic Rags

New Prices to Mill, f. o. b. N. Y.

Shirt Cuttings—		
New White, No. 1	11.50	@12.00
New White, No. 2	6.50	@ 7.00
Silesias, No. 1	7.50	@ 8.00
New Unbleached	9.00	@ 9.50
Washables	4.50	@ 5.00
Fancy	6.25	@ 6.75
Cotton—according to Grades—		
Blue Overall	5.50	@ 6.00
New Blue	4.75	@ 5.00
New Black Soft	5.50	@ 6.00
New Light Seconds	2.75	@ 3.00
O. D. Khaki Cuttings	4.00	@ 4.50
Men's Corduroy	3.00	@ 3.25
New Canvas	7.00	@ 7.25
New Black Mixed Old	2.50	@ 2.75
White, No. 1—		
Repacked	6.50	@ 6.75
Miscellaneous	5.50	@ 5.75
White, No. 2—		
Repacked	3.25	@ 3.50
Miscelaneous	5.50	@ 5.75
St. Soiled White	1.75	@ 1.85
Thirds and Blues—		
Repacked	1.90	@ 2.10
Miscellaneous	1.50	@ 1.60
Black stockings	2.90	@ 3.25
Roofing Rags—		
Cloth Strippings	1.10	@ 1.20
No. 1	1.10	@ 1.20
No. 2	1.00	@ 1.10
No. 3	.80	@ .90
No. 4	.80	@ .90
No. 5A	1.00	@ 1.10

Foreign Rags

New Light Silesias	6.00	nominal
Light Flannelettes	6.75	nominal
Unbl'chd Cottons	7.50	nominal
New White Cuttings	9.50	nominal
New Light Oxfords	6.00	nominal
New Light Prints	4.50	nominal
New Mixed Cuttings	2.00	@ 2.50
New Dark Cuttings	1.90	@ 2.10
No. 1 White Linens	9.00	@11.00
No. 2 White Linens	6.50	nominal
No. 3 White Linens	5.00	nominal
No. 4 White Linens	3.50	nominal
Old Extra Light Prints	2.00	nominal
Ord. Light Prints	1.75	nominal
Med. Light Prints	1.50	nominal
Dutch Blue Cottons	1.85	nominal
German Blue Cottons	1.60	@ 1.70
Ger. Blue Linens	3.50	nominal
Checks and Blues	1.50	nominal
Dark Cottons	1.30	@ 1.35
Shoppery	1.00	@ 1.05
French Blues	1.75	@ 2.00

Bagging

Prices to Mill f. o. b. N. Y.

Gunny No. 1—		
Foreign	1.00	@ 1.10
Domestic	1.00	@ 1.10
Wool, Tares, light	1.45	@ 1.55
Wool, Tares, heavy	1.40	@ 1.50
Bright Bagging	1.05	@ 1.20
No. 1 Scrap	1.05	@ 1.20
Sound Bagging	.85	@ .95
Manila Rope—		
Foreign	5.75	@ 6.00
Domestic	6.00	@ 6.25
New Bu. Cut	2.25	@ 2.45
Hessian Jute Threads—		
Foreign	2.25	@ 2.50
Domestic	2.20	@ 2.40
Mixed Strings	.90	@ 1.00

Twines

Cotton—(F. o. b. Mill)		
No. 1	.35	@ .37
No. 2	.31	@ .33
No. 3	.37	@ .39
India, No. 6 basis—		
Light	.20	@ .21
Dark	.19	@ .20
B. C., 18 Basis	.41	@ .42
A. B. Italian, 18 Basis	.51	@ .61
Finished Jute—		
Dark, 18 basis	.29	@ .30
Light, 18 basis	.26	@ .27
Jute Wrapping, 3-6 Ply—		
No. 1	.23	@ .24
No. 2	.21	@ .22
Tube Rope—		
4-ply and larger.	.15	@ .17
Fine Tube Yarn—		
5-ply and larger.	.19	@ .21
4-ply	.20	@ .22
3-ply	.20	@ .22
Unfinished India—		
Basis	.16	@ .17
Paper Makers Twine		
Balls	.13	@ .15
Box Twine, 2-3 ply	.18	@ .19
Jute Rope	.17	@ .20
Amer. Hemp, 6	.33	@ .35
Sisal Hay Rope—		
No. 1 Basis	.15	@ .17
No. 2 Basis	.13	@ .15
Sisal Lath Yarn—		
No. 1	.14	@ .15
No. 2	.11	@ .13
Manila Rope	.18	@ .19

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, White, No. 1	4.20	@ 4.40
Hard, White, No. 2	3.75	@ 4.15
Soft, White, No. 1	3.75	@ 3.90
Flat Stock—		
Stitchless	2.65	@ 2.70
Over Issue Mag.	2.75	@ 2.75
Solid Flat Book	2.45	@ 2.50
Crumpled No. 1	2.10	@ 2.15
Solid Book Ledger	3.00	@ 3.25
Ledger Stock	2.70	@ 2.80
New B. B. Chips	1.00	@ 1.10
Manilas—		
New Env. Cut	2.50	@ 2.60
New Cut No. 1	2.00	@ 2.10
Extra No. 1 Old	1.80	@ 1.90
Print	1.55	@ 1.65
Container Board	1.25	@ 1.35
Bogus Wrapper	1.10	@ 1.20
Old Kraft, machine compressed Bales	2.15	@ 2.25
News—		
No. 1 White News	2.05	@ 2.20
Strictly Overissue	1.25	@ 1.35
Strictly Folded	1.20	@ 1.35
No. 1 Mixed Paper	.80	@ .95
Common Paper	.60	@ .70

CHICAGO

[FROM OUR REGULAR CORRESPONDENT]

Paper

F. o. b. Mill

All Rag Bond	35	@ 40
No. 1 Rag Bond	30	@ 35
No. 2 Rag Bond	18	@ 25
Water Marked Sulphite	10	@ 14
Sulphite Bond	9½	@ 12
Sulphite Ledger	12	@ 14
Superfine Writing	18	@ 24
No. 1 Fine Writing	14	@ 22
No. 2 Fine Writing	12	@ 20
No. 3 Pine Writing	9	@ 12
No. 1 M. F. Book	6½	@ 7
No. 1 S. & S. C. Book	7	@ 7½
Coated Book	8¼	@ 9
Coated Label	8½	@ 8¾
News—Rolls mill	4	@ 4½
News—Sheets, mill	4¼	@ 4¾
No. 1 Manila	5¼	@ 6
No. 1 Fiber	5¼	@ 5¾
No. 2 Manila	4½	@ 5
Butchers' Manila	4	@ 4½
No. 1 Kraft	7	@ 7½
No. 2 Kraft	6½	@ 7
Wood Tag Boards	4½	@ 5
Screenings	3	@ 4
Boards, per ton— Plain Chip	All quotations withdrawn	
Solid News		
Manila Lined Chip		
Container Line— 85 Test		
100 Test		

Old Papers

Shavings—		
No. 1 Hard White	4.15	@ 4.35
No. 1 Soft Shav.	3.75	@ 4.00
No. 1 Mixed	1.65	@ 1.75
No. 2 Mixed	1.65	@ 1.75
White Envel. Cuttings	4.15	@ 4.35
Ledgers and Writings	3.00	@ 3.15
Solid Books	2.75	@ 3.00
No. 1 Books, Light	2.55	@ 2.70
Blanks	2.10	@ 2.35
Ex. No. 1 Manila	2.35	@ 2.50
Manila Envelope Cuttings	2.40	@ 2.60
No. 1 Manilas	1.75	@ 2.00
Folders News (over issue)	1.65	@ 1.75
Old Newspaper	1.60	@ 1.70
Mixed Papers	1.50	@ 1.60
Straw Clippings	1.50	@ 1.60
Binders Clippings	1.50	@ 1.60
Kraft	2.50	@ 2.60
New Kraft Cuts	2.60	@ 2.75
Roofing Stock, f. o. b. Chicago, Net Cash—		
No. 1	26.00	@ —
No. 2	24.00	@ —
No. 3	22.00	@ —
No. 4	22.00	@ —

PHILADELPHIA

[FROM OUR REGULAR CORRESPONDENT]

Paper

Bonds	.10	@ .60
Ledgers	.15	@ .40
Writings—		
Superfine	.15	@ .20
Extra fine	.12	@ .22
Fine	.20	@ .30
Fine, No. 2	.20	@ .25
Fine, No. 3	.15	@ .20
Book, M. F.	.06	@ .11
Book, S. S. & C.	.08	@ .15
Book, Coated	.08	@ .15
Coated Lithograph	.10	@ .15
Label	.08	@ .15
News	.05	@ .07
No. 1 Jute Manila	.12	@ .13
Manila Sul., No. 1	.08	@ .10
Manila No. 2	.07½	@ .08
No. 2 Kraft	—	@ .10
No. 1 Kraft	—	@ .11
Common Bogus	.02½	@ .03
Straw Board	67.50	@70.00
News Board	58.00	@
Chip Board	58.00	@
Wood Pulp Board (Carload Lots)	1.20	@ 1.25
Binder Boards—		
Per ton	80.00	@
Carload lots	80.00	@
Tarred Felts—		
Regular	48.00	@50.00
Slaters	54.00	@56.00
Best Tarred, 1-ply (per roll)	1.35	@ 1.50
Best Tarred, 2-ply (per roll)	1.00	@ 1.15
Best Tarred, 3-ply	1.50	@ 1.65

Bagging

F. o. b. Phila.

Gunny No. 1—		
Foreign	1.10	@
Domestic	1.10	@
Manila Rope	5.25	@ 5.75
Sisal Rope	.75	@ .80
Mixed Rope	.75	@ .80
Scrap Burlaps	1.00	@ 1.25
Wool Tares, heavy.	2.50	@ 2.75
Mixed Strings	.75	@ .80
No. 1, New Lt. Burlap	1.75	@ 2.00
New Burlap Cuttings	1.75	@ 2.10

Old Papers

F. o. b. Phila.

Shavings—		
No. 1, Hard White	4.00	@ 4.25
No. 2, Hard White	3.50	@ 3.75
No. 1 Soft White	3.60	@ 3.75
No. 2 Soft White	2.00	@ 2.25
No. 1 Mixed	1.50	@ 1.75
No. 2 Mixed	1.00	@ 1.25

(Continued on page 74)

Imports and Exports of Paper and Paper Stock

(*Continued from page 68*)

PHILADELPHIA IMPORTS

WEEK ENDING DECEMBER 30, 1922

Hudson Trading Co., Callisto, Hamburg, 463 rolls news print.

Hudson Trading Co., Emden, Hamburg, 383 rolls news print.

American Wood Pulp Corp., Jesey Hernosand, 6,000 bls. wood pulp, 1,016 tons.

Johanesson, Wales & Sparre, Inc., by same, 4,600 bls. wood pulp, 812 tons.

Irving Nat'l Bank, Belvedere, Kotka, 1,222 bls. wood pulp, 208 tons.

Irving Nat'l Bank, Belvedere, Helsingfors, 883 bls. wood pulp, 152 tons.

Castle, Gottheil & Overton, Blyden, Rotterdam, 235 bls. wood pulp.

Castle, Gottheil & Overton, Binnendyk, Rotterdam, 185 bls. rags.

Castle, Gottheil & Overton, Bradclyde, Hamburg, 50 bls. rags.

Castle, Gottheil & Overton, Nw. Miller, London, 40 bls. waste paper.

Castle, Gottheil & Overton, Sw. Miller, London, 119 bls. waste paper.

Katzenstein & Keene, Inc., Bradclyde, Hamburg, 557 bls. rags.

E. J. Keller Co., Inc., Sonora, Bordeaux, 198 bls. rags.

E. J. Keller Co., Inc., Attmark, Hamburg, 1,032 bls. rags.

E. J. Miller Co., Inc., Argus, Antwerp, 612 bls. rags.

Castle, Gottheil & Overton, by same, 3 bls. rags.

S. Silberman, by same, 67 bls. rags.

American Wood Pulp Corp., by same, 43 bls. rags.

Amer. Exchange Nat'l Bank, Missouri, Antwerp, 304 bls. rags.

Irving Nat'l Bank, Ville de Djiboute, Marseilles, 439 bls. rags.

Ladenburg, Thalman & Co., by same, 123 bls. rags.

D. M. Hicks, Inc., by same, 426 bls. rags.

NORFOLK IMPORTS

WEEK ENDING DECEMBER 30, 1922

Irving Nat'l Bank, Belvedere, Helsingfors, 9,244 bls. wood pulp, 1,305 tons.

Irving Nat'l Bank, Belvedere, Kotka, 11,413 bls. wood pulp, 2,108 tons.

NEW ORLEANS IMPORTS

WEEK ENDING DECEMBER 30, 1922

Castle, Gottheil & Overton, C. of Weatherford, London, 184 bls. wood pulp.

Castle, Gottheil & Overton, Youngstown, London, 107 bls. waste paper.

Wortendyke Co. Gives Big Christmas Party

[FROM OUR REGULAR CORRESPONDENT.]

RICHMOND, Va., December 30, 1922.—The Wortendyke Manufacturing Company gave its thirty-third annual Christmas entertainment in the ball room of the Richmond Hotel, on Friday night last week. It has been the practice of the company to give these entertainments each year to its employees. On the preceding night a banquet was given at the Richmond for officers and foremen.

While the banquet was being served, another one was being given at Miller's Hotel for the colored employees and their guests.

The Ryal Wendt orchestra played for dancing the early part of the evening. Miss Bobby Traimine, gave an exhibition of bare foot dancing. Harris Hilton's orchestra played the latter part of the evening, assisted by their acrobatic dancers.

The Lorillard Chorus, dressed as waiters, sang several popular melodies. As they started singing, they dropped their dishes to the floor, much to the amazement of the throng. Gathering them up, they started crooning "Old Black Joe" and other Southern songs.

A very unique "Safety Show" was presented. Seven beautiful young ladies marched in, dressed as ghosts. Each one carried a grave stone, marked with safety slogans such as "Early planting not recommended" "Say it with Safety and Save the Flowers" "M. E. First" "A. J. Walker" "I took chances," etc. These grave stones were then set upon the floor, after which the funeral service was held, the young ladies placing wreaths upon the graves.

Mr. Gallagher and Mr. Sheen was next presented by Temple White and Frank Henley, two of the company's salesmen.

Miss Peggy Mosely, who has been studying under B. Barnhardi; former ballet master of the Breslin Theatre, solo danseur of the Grand Opera of Paris and Royal Theatre of Munich, gave a beautiful solo dance.

The Schools Sisters in their Ukulele quartette were the next performers.

Miss Laura Schools, aged seven, rendered "Homesick."

The Kewpie minstrels was the climax of the evening.

The Wortendyke Manufacturing Company, gave to each employee who had been in its service for a period of six months a Life Insurance Policy for $500. These policies increase $100 each year the employee remains with the company.

Handsome presents were given to all those attending. Favors of all kinds, noise makers, fancy hats, confetti, etc., were distributed.

Representatives and guests of the company were present from many states.

New Use for Gummed Paper

A new use for gummed tape was an outstanding development of the Christmas season just closed. Special regulations by the post office department provide for the mailing of fourth class mail, parcels post, in packages sealed by gummed tape.

Hitherto, any package which was sealed, would require first class postage, but the new provision carries definite regulations authorizing, and in fact encouraging the use of gummed tape on package mail.

A special bulletin of the New York Post Office makes this statement, after indicating how sealed fourth class mail should be marked to indicate it comes under the new provision.

"Handstamping or writing the foregoing (form for mailing sealed fourth class merchandise) does not meet the requirements. The indicia should be printed so that the labels will be uniform and legible, thus facilitating the identification of the sealed parcels as entitled to be mailed under this provision. When desired, the statement as to contents, etc., may be printed on gummed paper tape, which is used by some shippers for sealing their parcels."

Postmaster E. M. Morgan, in a letter to Secretary Jacob Erichsen of the Gummed Paper Manufacturers' Association says, "In order to be assured that any tape which you propose to prepare will comply with the regulations it is suggested that a sample or specimen be presented at Room 224, General Post Office, 33rd street and 8th avenue, where any further information desired will be cheerfully furnished."

Several big New York houses mailed parcels for their customers, sealed with gummed tape specially printed under the provisions of this regulation. Others used gummed paper labels, carrying the required inscription.

Trimbey Consistency Regulator in Canada

In order to facilitate shipping to its Canadian customers the Trimbey Machine Company of Glens Falls, N. Y., manufacturer of the Trimbey Consistency Regulator, has arranged for the manufacture of its products by the engineering and machine works of St. Catharines, Ont. Henceforth all Canadian orders will be filled from the plant while all information will be handled from the Glens Falls office.

The company reports receipt of a number of new orders, five from National Paper Products Company, Stockton, Cal., three from Washington Pulp and Paper Company and two from St. Lawrence Paper Mills, Ltd. Its foreign business handled through Lorentzen & Wettre of Kristina is also increasing one of the recent shipments being for Papierfabrik Perlen, of Perlen, Switzerland, making four which have gone to this section within a few months.

Felt Test—Lowest Cost per Ton

If you judge felt values, not by what you put into the equipment, but what you get out of it—then you will specify ORR 3 stripe Endless Felts for ORR felts will produce the lowest cost per ton. They "stand up" under severe usage. Orr durability is acknowledged everywhere. Their strength and long life are as dependable as their reliability and quality.

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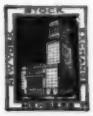

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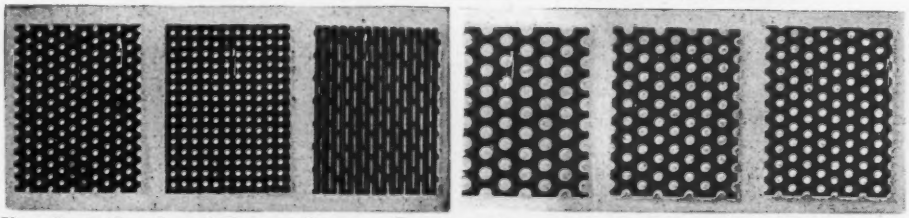

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Miscellaneous Markets

OFFICE OF THE PAPER TRADE JOURNAL,
TUESDAY, January 2, 1923.

BLEACHING POWDER.—Some spot buying has entered into the bleaching powder market of the past week, the price of 2.00 cents a pound being maintained with fair consistency and shaded somewhat on quantity shipments.

BLANC FIXE.—As opposed to the price trend of bulk of other chemicals used by paper manufacturers, blanc fixe has enhanced in value approximately $5 per ton in the past two weeks. Blanc fixe pulp is now listed at $45 to $50 per ton, while the dry commodity has advanced to the range of $85 to $90.

CAUSTIC SODA.—Although caustic exports have fallen off to some extent in recent weeks, the contract price of 2.50 cents a pound continues to hold firm on the domestic market. Production conditions are gradually improving and, on the whole, caustic soda has been fairly active throughout the holidays.

CHINA CLAY.—A slight easing up from buying quarters has been noticeable in the China clay market during the past ten days. Prices still retain their firmness, however, at $16 to $23 per ton for the imported, $12 to $15 on washed domestic, and $9.50 to $12 on the unwashed.

CASEIN.—With practically nobody making contracts and all selling of casein restricted from two to four weeks in advance, the casein market has continued to gain strength. Spot prices ranging from twenty cents to a quarter a pound have been gladly paid by coating mills and in some localities, where the shortage has been acute, as high as 28 cents has been rumored.

PAPERMAKERS' GLUE.—Thirteen to twenty cents a pound represents approximately the top and bottom prices quoted on tub sizing grades of papermakers' glue. Demand has slackened somewhat during the holiday period.

ROSIN.—Grades E, F, and G, of rosin in barrels of 100 pounds have continued to fluctuate in the vicinity of 7.00 cents a pound. Despite the slight falling off in demand in the past two weeks, an even price tone has been maintained owing, probably, to the fact that naval store production is at its lowest ebb at this season.

SALTCAKE.—Despite the production difficulties encountered by manufacturers of this chemical, holiday reticence in buying has had the effect of momentarily easing up the price tone to a slight extent. Chrome cake is now quoted at $24 to $25 while $27 to $28 represents the approximate range at which acid cake moves to consumers.

SODA ASH.—This commodity has held its own in the past two weeks, the schedule price of 1.20 cents a pound being quite strong and with a tentency to advance if any alteration is made in alkali quotations. Competition is still rampant and in spite of the near stagnation in spot purchasing, contract business is supporting the market's tone.

STARCH.—Quoted at 2.82 cents a pound for bag lots of the papermakers' grade and 3.10 cents for barrels of the same quality, starch has been less active in its movement to papermaking channels during the past week than it has for some time. Powdered starch still is listed at 2.72 cents in bags and 3.00 cents in barrels.

SULPHITE OF ALUMINA.—The car shortage is still the obstacle which looms up before producers of aluminum shortage, with the pronounced scarcity of bauxite and other raw materials running a close second. Commercial alum ranges in quoted value from 1.50 to 1.75 cents a pound at the works. Iron free sulphate of alumina now lists at 2.55 to 2.80 cents, prospects indicating that this price will continue into the new year.

SULPHUR.—Brimstone has continued to enter papermaking channels on contract whereas but little buying has been consummated during the past two weeks owing to the fact that many mill purchasing agents were away during this period. The price of $18 to $20 per ton still holds for sulphur.

Market Quotations

(Continued from page 71)

Solid Ledger Stock.	2.75	@	3.00
Writing Paper.....	2.50	@	2.75
No. 1 Books, heavy.	2.25	@	2.50
No. 2 Books, light.	1.40	@	1.50
No 1 New Manila.	2.75	@	3.00
No 1 Old Manila..	1.50	@	1.75
Container Manila...	1.25	@	1.30
Old Kraft.....	2.25	@	2.30
Overissue News....	150	@	1.60
Old Newspaper.....	1.20	@	1.25
No. 1 Mixed Paper.	1.10	@	1.15
Common Paper.....	.80	@	.90
Straw Board, Chip.	.80	@	.90
Binders Bd', Chip.	.80	@	.90

Domestic Rags—New.
Price to Mill, f. o. b. Phila.

Shirt Cuttings—			
New White, No. 1.	11¼	@	.11¾
New White, No. 2	.06	@	
Silicias, No 1....	.06½	@	.07
New unbleached..	.10¾	@	
Washables	.03½	@	
Fancy	04¾	@	.05¾
Cottons—according to grades—			
Blue Overall....	.05½	@	.05¾
New Blue.....	.02¼	@	.02¾
New Black Soft.	.06¼	@	.06½
New Light Seconds	.02½	@	.02¾
Khaki Cuttings..	.03½	@	.04¼
Corduroy	.03¼	@	.03½
New Canvass.....	.07½	@	.08
New Black Mixed Old	.04	@	
White, No. 1—			
Repacked	.06	@	.06½
Miscellaneous	.04½	@	.04¾
White, No. 2—			
Repacked	.03	@	.03½
Miscellaneous	.03	@	.03¼
Thirds and Blues—			
Repackeed	200	@	2.25
Miscellaneous	1.85	@	1.90
Black Stockings....	2.75	@	3.00
Roofing Stock—			
No. 1.....	1.30	@	1.35
No 2.....	1.20	@	1.25
No 3.....	1.10	@	1.15
No. 4.....	110	@	1.15
No. 5A.....	1.05	@	110
B.....			nominal
C.....			nominal

BOSTON

[FROM OUR REGULAR CORRESPONDENT]

Paper

Bonds	.08	@	.50
Ledgers	.08½	@	.55
Writings	.08	@	.42
Superfine	.16	@	.26
Fine	.15	@	.18
Books, S. & S. C..	.07¼	@	.12
Hooks, M. F.....	.06¾	@	.09½
Books, coated	.09	@	.15
Label	.08½	@	.13
News, sheets	4.75	@	6.00
News, rolls	4.50	@	5.75
Manilas—			
No. 1 Manila...	$6.00	@	7.00
No. 1 Fiber	.06½	@	.07
No. 1 Jute	9.00	@	10.50
Kraft Wrapping ..	.07	@	
Common Bogus	3.50	@	3.85

Boards

(Per Ton Destination)

Chip	$52.50	@	57.50
News, Vat Lined...	57.50	@	60.00
Wood, Vat Lined..	65.00	@	67.50
Filled News Board.	57.50	@	60.00
Solid News Board..	65.00	@	70.00
S. Manila Chip...	70.00	@	75.00
Pat. Coated	85.00	@	92.50

Old Papers

Shavings—			
No. 1 Hard White	4.25	@	4.50
No. 1 Soft White	3.00	@	3.50
No. 1 Mixed.....	1.25	@	1.50
Ledgers & Writings	1.75	@	2.00
Solid Books.....	2.25	@	2.50
Blanks	1.70	@	1.80
No. 2 Light Books.	1.75	@	1.90
Folded News, overissues	26.00	@	28.00
Gunny Bagging	.85	@	.90
Manila Rope.....	5.75	@	6.00
Common Paper.....	.60	@	.70
Old News	.80	@	.90
Old Kraft	2.00	@	2.10

TORONTO

[FROM OUR REGULAR CORRESPONDENT]

Paper

(Mill Prices to Jobbers f. o. b. Mill)

bond—			
Sulphite	.11	@	.12½
Light tinted.....	.12	@	.13½
Dark tinted.....	.13½	@	.15
Ledgers (sulphite).	—	@	.13
Writing	.09½	@	.12
News, f. o. b. Mills—			
Rolls (carloads).	3.75	@	—
Sheets (carloads)..	—	@	4.50
Sheets (2 tons or over)	—	@	4.75
Book—			
No. 1 M. F. (carloads)	9.00	@	—
No. 2 M. F. (carloads)	8.00	@	—
No. 3 M. F. (carloads)	7.50	@	—
No. 1 S. C. (carloads)	9.50	@	—
No. 2 S. C. (carloads)	8.50	@	—
No. 1 Coated and litho.	14.00	@	—
No. 2 Coated and litho.	13.00	@	—
No. 3 Coated and litho.	12.25	@	—
Coated and litho., colored	14.25	@	—
Wrapping—			
Grey	5.00	@	—
White Wrap.....	5.75	@	—
"B" Manila.....	6.00	@	—
No. 1 Manila.....	7.25	@	—
Fiber	7.25	@	—
Kraft, M. F.	8.00	@	—
M. G.	8.15	@	—

Pulp

(F. o. b. Mill)

Ground wood.....$	40.00	@	50.00
Sulphite easy bleaching	60.00	@	70.00
Sulphite news grade.	55.00	@	60.00
Sulphite, bleached.	100.00	@	105.00
Sulphate	70.00	@	—

Old Waste Papers

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut..	3.85	@	—
Soft White Book Shavings	3.60	@	—
White Blk News.	2.00	@	—
Book and Ledger—			
Flat Magazine and Book Stock(old)	2.30	@	—
Light and Crumpled Book Stock	2.15	@	—
Ledgers and Writings	2.50	@	—
Solid Ledgers....	2.75	@	
Manilas—			
New Manila Cut.	2.00	@	—
Printed Manilas..	1.75	@	—
Kraft	2.50	@	—
News and Scrap—			
Strictly Overissue	1.50	@	
Folded News....	1.50	@	
No. 1 Mixed Papers	1.00	@	—
Domestic Rags—			

Price to mills, f. o. b. Toronto

	Per lb.		
No. 1 White shirt cuttings	.11	@	.11¼
No. 2 White shirt cuttings	.06	@	—
Fancy shirt cuttings	.06	@	—
No. 1 Old whites	.04	@	—
Thirds and blues	.02	@	
	Per cwt.		
Black stockings...	2.50	@	—
Roofing stock:			
No. 1	1.25	@	—
No. 2	1.00	@	—
Roofing stock:			
Manila rope.....	6.10	@	
No. 2.....	1.50	@	
Gunny bagging....	1.00	@	